THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—Liebig.

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William H. Dillingham's Address.

On the 10th of Ninth month last, W. H. Dillingham of this city, delivered an Address before the Horticultural Society of Chester county, Pa., at West Chester. The following are extracts from it.—Ed.

The name of the State in which we rejoice, is descriptive of its characteristic features to the first settlers. Penn found the country granted to him by his sovereign, a forest, and the designation assigned to it, equally simple and appropriate, means, in plain speech, Penn's woods. It has been our lot to see it, in "bud and blossom like the rose;" and it is our business here to-day, surrounded by the treasures of Pomona and the splendors of Flora, products of the rich inheritance of a happy soil and clime, perpetuated to us by the virtues of our ancestors, while felicitating ourselves in these enjoyments, to increase its fertility and beauty. To the region occupied by the members of this Society, as part and parcel of the original county of Chester, pertain the honour and the responsibility of having been the first resting place of the Proprietary of this then noble forest, the chosen spot to begin the development of his great idea of a commonwealth founded upon the blessed principle of "peace on earth and good will to man." You are the children's children in the third and fourth generations of his companions; many of you still cultivate the paternal acres which Penn himself granted to your ancestors. You have still the custody of the earliest muniments of title, and the records of the first judicial proceedings in our commonwealth, which secure to you the possession of the soil that produces these plants and fruits and flowers.

Invited upon this occasion to speak for you and to you, the speaker has identified himself with you, and feels that he has a right to do so, not alone from a devotion to the common objects of your interesting anniversary. Our children have a common ancestry in the friends and companions of Penn. Within these walls, now decorated by fair hands for this autumnal festival, for half a life-time he took an earnest, anxious part in the questions connected with the settlement of the estates where you plant your gardens and cultivate your grounds. Here he has toiled, as some present can bear him good witness, for days and weeks, to demonstrate, that a decayed relic of one of the ancient monarchs of Penn's woods, "to wit," a certain black-oak stump, should determine all questions about a boundary line of one of the estates "aforesaid." But this ancient

hall of justice, identical with the history, transmission, and partition of every estate in this county for the last sixty years, and with the present title to each particular spot where these flowers and fruits were grown, is soon to pass away. It was well to decorate it thus before the final sacrifice. Already its elegant and classic neighbour seems impatient of its humbler presence, whose interesting memories it cannot supply.

In reviewing the history of this time-honoured hall, how are we reminded of the contrast between those warlike demonstrations from ancient upland, which threatened, with artillery, to batter down these rising walls, and the peaceful decorations, redolent of beauty and harmony, which grace its *exit*. These flowers and fruits, methinks, are kindly tokens which mother earth sends up to bid the Old Court House good bye.

As Chester county led the van in the settlement and culture of Penn's woods, so should it still be the banner county in agriculture and horticulture. It possesses the elements for this distinction in the virtue, industry, intelligence, and thrift of its population, and in the fertility of its soil, its genial climate, its varied surface, its beautiful streams, its abounding springs, its rich, indigenous Flora—and in the good fortune to have produced a son, the pride and pleasure of whose life it is, to develop the history, character, and properties, the beauties and the uses of the vegetable world. Permit me to add to these commanding advantages, your vicinity to and daily improving facilities of intercourse with our great metropolis, justly famed for its devotion to science, and particularly to the study of the natural sciences. Her schools and her collections in these departments are scarcely rivalled on this continent, and they are all within your reach. You have already set an example worthy of imitation by every other county in the state, in your own Collections of Natural History. They evince a taste and spirit worthy of all commendation.

As Pennsylvania was the first to establish an Agricultural Society, so she was the first State of this Union to establish a Horticultural Society: still earlier she made an attempt at a botanic garden. It is now near an hundred years since Bartram began his enterprise on the Schuylkill, and its glory has not yet departed. You have still the evidence before you of what Humphrey Marshall attempted, soon after, in this vicinity.

Botany, an essential element of Horticulture, has still higher claims upon you: the first cultivators of the ancient county of Chester were countrymen of the immortal Linnæus, the great discoverer of that secret, whereby the whole vegetable kingdom was first reduced to system through all its varieties, from the trees of the forest to the moss.

The Swedes were the true pioneers in this cultivation, now our pride and boast. Within a century after the hardy sons of the North set foot upon this soil, and with stout heart and strong arm assailed the giant forests, their illustrious countryman possessed himself of his master key.

Within a few years Horticultural Societies have given it an impulse in all its departments unknown before. It is not fifty years since the Horticultural Society of London was founded. The labours of this Society have produced results truly wonderful. The example has been followed, and similar Societies have multiplied both in Europe and in this country. That of Paris, established in 1826, has been patronized by the court, by the nobility, and very generally by their distinguished men. The *Jardin du Plants*, at Paris, is regarded as the best establishment of the kind in the world, and includes what may be called a school for horticulture.

These are, perhaps, the main sources of that impulse which has been given to this pursuit throughout Europe. Horticultural societies are now universal, and rapid progress has been made here as well as there, within the last thirty years. Nothing is more obvious to those in the habit of resorting to our own markets, than the improvements in esculent vegetables and fruits, within this period, both in variety and quality. Still greater advances have been made in the general diffusion of a taste for plants and flowers. The florists constitute now an important class in our large towns, and some of their establishments are truly magnificent. The Greenhouse, the Hothouse, and the Conservatory, are regarded as among the most refined and elegant indulgences of men of wealth and taste, and very generally introduced. Many of our most distinguished men, in the various professions and in the higher walks of life, took an active part in the formation of the Pennsylvania Society, gave great attention to it for years, and still help sustain it. It has always been a special favourite with the fair sex, whose tastes and habits are so congenial to the beautiful flowers, and their virtues so well reflected in them. The monthly exhibitions furnish opportunities for pleasant re-unions to those who do not indulge in the gaieties of dissipation, and are uniformly characterized by pervading cheerfulness and innocent enjoyment. It is impossible to be selfish or

ill-natured at a horticultural exhibition. It is the appropriate place for cordial greetings, kind words, winning looks, and cheerful smiles.

Our anniversary festival is well known to you as the most popular and most joyous of the year. Nor do the votaries of Flora and Pomona grow weary in their assiduities to keep up the interest of these annual exhibitions. Few know how much time, and care, and thought are given, and cheerfully given, in the preparations. There, as here, no doubt, the participation of the ladies adds a zest to these labours—what else, indeed, could have drawn such thousands and thousands to our gala through such a succession of years—the gay and joyous throng increasing at each succeeding anniversary. It has in some measure supplied that, in which it is said we were deficient—*sources of innocent amusement.*

Sewage Manure.

The attention which has been lately paid to sanitary statistics, has thrown much light upon many subjects of importance which were not, at first sight, very evidently connected with them. It appears, from some of the striking facts which have been evolved during these enquiries, that the land in the neighbourhood of populous cities may be so fertilized for agricultural purposes, by the judicious application of that which is now one of the principal causes of impure atmosphere, disease, and death—*the sewage manure*—that the country may be enabled to support its present population, nay, even a much increased one, in years of average produce, in ease and plenty. Dr. Liebig said, some years ago, that, by the application of chemical principles to agriculture, England might be made to produce half as much more breadstuffs than she had ever yet done; but these sanitary reports very much exceed the calculations of the learned Doctor. For instance, the report on the sanitary condition of the borough of Sheffield shows, as clearly as figures and the application of scientific principles can show, that the sewage manure of that town, with its one hundred and ten thousand inhabitants, is equal annually in fertilizing power to 3,140 tons of guano,—in value £30,000—and sufficient to keep one hundred thousand acres of land in a constant state of fertility on the four-course system of farming. On the ratio of this calculation, the refuse of London, with its two millions of inhabitants, would be equal to 56,520 tons of guano, its value £540,000, and its fertilizing power would suffice for one million eight hundred thousand acres of land. The Rev. Mr. Huxtable presented some most extraordinary facts upon this subject, at a recent meeting of scientific agriculturists, held at Sir Robert Peel's. The reverend gentleman stated that, by the application of liquid manure, a farm of ninety-five acres of land, ten of which only were under the plough when he entered upon it, and which then supported fourteen dairy cows and grew 48 bushels of wheat and 40 bushels of beans, was caused to produce annually 1,600 bushels of wheat, support 40 head of cattle, cows and calves, and fatten 100 sheep and 80 pigs. Of course the *whole* of the 95 acres were now broken up. This farm, too, which under its former management only partially supported four labourers, now employs twelve all the year round. When two such important ends as the getting rid of a most dangerous and deadly nuisance, and the conversion of it into a source of profit and plenty, can thus be answered by one simple and ready application, is there not every reason to hope that at least some portion of this application will be adopted. Am I right in supposing that these facts will interest your readers? They are of the highest importance to the English community, for what can be more so than the increase of their country's salubrity and fertility?—*National Intelligencer.*

From the Cultivator.

The Wood Plough.

I was intimately acquainted with Jethro Wood for nearly thirty years, residing within five miles of him during the whole period in which he was engaged in improving the plough. In the early part of 1812, I tried to procure one of Peacock's, near Philadelphia, but failed; and on my return I spoke of my disappointment to him, when a long conversation on improvements in the plough ensued. From that time the subject continued to claim his attention. In 1814 he obtained his first patent, the specifications for which I drew. The chief improvements —if my memory is correct—consisted in the superior *shape* of the cast-iron mould-board, and a *small wrought share*, fastened on with screws. I had one of the first that was made, *probably* before it was patented.

To understand the importance of these improvements and of those which followed, it may be necessary to learn how farmers had to manage in early times; and for this purpose I give an extract from *The Plough Boy* of 1821, vol. 3, page 5, with some *verbal* alterations:

"Ten years ago, the farmers of this town

were satisfied with the Bull plough. They thought it superior to every other among roots and stumps. It was easily drawn back when it got fast, for it generally had no coulter; the share but little slant, and a short nose.

"Hard gravelly ground, however, soon dulls a plough share. Many of us had to go far to a blacksmith's. While we were gone, the team was idle at home. When we arrived the shop floor would be partly covered with plough shares, but *first come, first served*, was the rule. From one-fourth to half a day was often lost in this way. But this was not all our trouble. The share sometimes came back in a different shape—it no longer ran like the same plough. It often had too much or too little *pitch*, and the share warped in hardening. A load of dirt fastened on it," &c.

Such was the state of things when Jethro Wood introduced his plough. Its *permanent shape*, and *cast-iron edge*, wrought a total change in our condition, but not without great opposition for a time. He told me that all his friends,—with one or two exceptions,—endeavoured to discourage him from trying "pot-metal!" and the same opinions were prevalent when he proposed to dispense with the old sheath or standard, and substitute a projection from the upper edge of the mould-board, to pass through the beam. His language to me at that time was, "I intend to make it as simple as a skimming dish." For this improvement alone,—whether it pass through or be fastened under the beam—his name should be immortalized, and no candid person can deny him extraordinary merit, when he considers that every plough, down to that time, had been encumbered with a heavy sheath of wood or wrought iron—expensive, and liable to get out of order.

In his first patented plough, nearly a dozen screws were employed; but in that of 1819, not a screw was seen; and the ploughman was rendered independent of the blacksmith—avoiding long bills and great loss of time.

The exercise of mind and amount of labour to perfect these improvements, can scarcely be appreciated by those who have not been engaged in similar pursuits. It was a new field, and everything had to be learned by experiment. To discover and procure the best materials for patterns, as well as to prepare them, employed him for a long time; and most men would have shrunk from the difficulties that met him at the foundries. Often he had to overcome the awkwardness or unwillingness of the moulders by presents, or by showing them how to succeed with his own hands.

I am satisfied that all his patented improvements were inventions of his own—originating in his own mind; and to avoid encroaching on what others had invented, he had every volume within his reach that treated of ploughs—including several Encyclopedias,—carefully examined for that purpose.

To Jethro Wood's name belongs the honour of rendering the plough that *cheap* and *efficient* instrument that we now find it—enabling us to cultivate our fields at less than a quarter of the former expense, and saving millions to the country.

David Thomas.

Greatfield, Cayuga co., Twelfth mo. 10th, 1847.

Exhibition of the Agricultural and Horticultural Society of Brussels, October 1st, 1847.

The middle of one *salon* was devoted to the various kinds of grain, which were shown in the straw; three rooms were completely occupied with samples of potatoes, consisting of almost every known variety. Some idea may be formed of the interest the Belgians take in the cultivation of this useful root, by the fact that there were more than one hundred and eighty collections of potatoes, among which I counted about forty exhibitors of seedlings raised in 1846 and '47, the particulars of which I will give presently. Vegetables of every description were numerous and generally fine, especially carrots, pumpkins, and cabbages. The fruit was magnificent. I hardly know how to express myself sufficiently complimentary of the pears and apples,—finer, I believe, were never before exhibited, certainly never surpassed in quantity or quality. The interest was further increased by some specimens of fine seedling pears, of which more anon. This rich display entirely filled one large *salon* and two ante-rooms. As for flowering plants, of course, no one expected to see the brilliancy of a spring exhibition, that is out of the question at the end of September; but in every other respect it was splendid. The noble specimens of palms, ferns, conifers, cacti, orchids, &c., &c., were the admiration of every lover of horticulture.

Roses were neither numerous nor fine, certainly not to be compared with those I have seen exhibited in France, more particularly at the Chateau des Fleurs. Two collections of well-known varieties, in small pots, were all that were shown. General collections of stove and greenhouse plants were numerous, but of course this was not the season to see them to advantage; among

those few were two or three excellent flowers, and one superlative, named *Toison d'Or*, which was considered by every amateur present to be one of the finest dahlias ever raised, being large, finely cupped, very symmetrical, high in centre, and colour golden orange or buff; it unanimously obtained the first prize, and I was informed it had been exhibited at several dahlia shows during the season, and always gained the principal prize; among the continental varieties for 1848, this will be the flower of the season. I must not forget some charming bouquets sent by Madame Vauriet, of Brussels; these consisted of an elegant "Bouquet de Noce," two beautiful "Bouquets de Bal," and three splendid large "Bouquets de Table," all arranged in exquisite taste.

I now come to the fruit rooms; here there were upwards of eighty exhibitors, among whom were the Duc de Brabante, Comte de Flandres, and Princess Charlotte. I had been led to expect a large collection of fruit; Flanders has the reputation of being *par excellence* the land of pears; in it have been raised more and better varieties than in all the rest of Europe put together; I was not disappointed, for certainly finer specimens, as regarded size and form, it would be difficult to produce. I have, it is true, seen both in England and France as fine single specimens, but here you meet them in almost every collection.

Among the vegetables were some very large collections; that of M. Simonis, of Liege, contained more than three hundred and twenty different varieties; in it were seven varieties of beet, fifteen of carrots, nine of celery, eight of endive, forty-seven of cabbages and broccoli, fifty-three of Haricot beans, twenty-four of lettuce, thirteen of turnips, nine of onions, thirty-two of peas, eight of radish, eight of tomatoes, &c. That of M. Galoppin consisted of one hundred different kinds of beans and peas. Mr. Vanderschriek had some very large cabbages, pumpkins, vegetable marrows, haricots, lettuces, and turnips; but in the collection of M. Rampelbergh, were some most beautiful specimens of broccoli, cabbages, carrots, endive, beans, cucumbers, and pumpkins; better it would have been difficult to meet with. Potatoes occupied a considerable space in the exhibition. The Society had offered one gold, two silver gilt, and two silver medals, for the best collections and for seedlings, and certainly there was no lack of competitors. As might be expected among so many collections, some were very even and good, and others mediocre. There might be seen varieties that had been cultivated in every kind of soil, and with all sorts of manure; in one place was the produce of sets received from South America, in another from the south of Europe, and in another from the most northern climates. In some collections it was indicated that they had been raised from diseased tubers; in others that sound tubers had been planted in land which had for the two previous seasons entirely failed; in fact, it was evident that a grand experiment had been tried to avert the danger of a national calamity. Several of the collections contained from twenty to seventy varieties, among which were numerous specimens of early white and red Kidney, early white and red round, Ash-leaved Kidney, early and late Irish Shropshire red, Shaw's red Antwerp, blue Saxony, Grosse Monstreuse de Mons, Rouge de Landen, long blue Dutch, spotted red and white Ghent, Rohan, Rose, Mousson, early and late Champion, blue Saint Helena, Rouge de Vosges, Corne de Vache, red Scotch, white and red Havannah, Howard, Nine Weeks, Ovale de Growland, Langue de Bœuf, late American red, and many others.—*Hovey's Magazine.*

Remedy for the Potatoe Rot.

In 1846, one of the editors of this paper planted potatoes on land manured with morocco tanner's manure, which contains a good deal of lime. The crop was healthy and good, while other fields in the vicinity were diseased. In considering what it was in the tanner's manure, that protected the potatoes from disease, he came to the conclusion that it was principally the lime. Accordingly, in the spring of 1847, after his potatoes were up and ready for the first hoeing, he put about a pint of shell lime—slacked—on each hill, having, previous to planting, ploughed in a moderate dressing of stable manure. The result was 200 bushels of the finest potatoes to the acre,—mealy and sound, on land naturally poor and sandy. They continue sound and good. We were about to state these facts for the benefit of others, when we met with the following in the American Agriculturist for January, 1848.

"When the seed is dropped, sprinkle about a pint of slacked lime over it in each hill, and then cover it.

"There is this value about the lime, if it does not prevent the rot in the potatoe, it will be worth its cost and the labour of application in fertilizing the land."

The mode of applying the lime, or rather the *time* of doing it, recommended by the Agriculturist, is different from ours, and may possibly be the best, though we are

not sure of it. We would prefer that the lime should not come in immediate contact with either the seed or vines. In addition to the remark of the Agriculturist as to the value of lime as a manure, even if it does not protect from disease, we would observe, that it is especially adapted to the potatoe, imparting to the tubers that ingredient which makes them mealy, and which is particularly needed on sandy soils. Potatoes of the first quality are now worth 75 cents and upwards per bushel, and will probably be a dollar in the spring. At these prices, they are the most profitable crop that can be raised. But if the application of lime is as efficacious as we suppose, and it should be generally adopted, the price would come down to nearly its former level.—*Exchange paper.*

Marshes, and their effects upon human Health.

It is well known that the effect of marshes on health is great and decided. In districts which abound in them, the inhabitants suffer not only from intermitting fevers, but from rheumatism and its kindred diseases. Their influences are not of that insidious character which some suppose, or at least the effects are always evident in the countenance and frame of the individuals. Emaciation, enlarged abdomen, feebleness, are some of the general effects which manifest themselves in persons who claim to enjoy health. But it is not necessary that these wet and marshy grounds should be extensive in order to exhibit a deleterious influence upon health; even ditches, stagnant pools, motionless water, each exhale matters which change healthy to unhealthy actions of the system. Puddles and pools, drains and sewers, operate most injuriously, and contain poisonous elements, which are exhaling so long as a particle remains to moisten the surface. Our country abounds in marshes. Some places which are now healthy and free from intermittents, were once abounding in them. The progress of agriculture has in many instances entirely banished this severe disease, and so as good husbandry extends a two-fold influence, beneficial in its character, is sure to follow healthfulness and wealth. Man never benefits himself in a legitimate way, without doubling his blessing, first receiving them into his own bosom, and then that of his neighbour. It is not however at all essential that a marsh or pool should exist, in order that poisonous vapor should be generated. Animal and vegetable matters in combination in deep mould, such as is found in the western prairie, is sufficient to generate a pestilence when exposed to the sun beams, and when moistened merely with dew, is sufficient in itself to form the miasm and float it in the atmosphere. Turf new ploughed, or turned over, especially if the areas are large, turns a country before healthy, into a region of sickness. From researches which have been instituted by Thenard and Dupuytren, Moscati, and by M. Regaud d l' Isle, the miasmatic exhalations have been found to contain animal matter, and hence it is probable that it is really composed of both animal and vegetable matter. It has been shown by Vauquelin, that the exhalations from the Pontine marshes, afforded animal matter in a putrescent state. In the foregoing instances however, this matter was obtained from the water or soil, but Boussingault succeeded in obtaining it from the atmosphere over the great southern American marshes, a fact which goes to show that the poisonous effluvia is exhaled in a tangible state. These poisonous gasses contain in addition to animal matter, light carburetted hydrogen, azote and carbonic acid, and sulphuretted hydrogen, and sometimes a trace of phosphuretted hydrogen. By vaporization of dew in the rains upon our western prairies, and the water of marshes, these organic and poisonous effluvias are disseminated in the atmosphere, and are wafted by the breeze over wide areas.

An interesting and important fact may be stated in this place, viz: that age influences or modifies the effects of marsh miasm. Infants or children under two, are less affected than those of three or four years. This may arise from the greater exposure of the latter. So old persons are less affected than those of middle age, or who are engaged in artisan pursuits. Children when attacked with disease, fall victims to its influence more easily than adults; their mortality is greater in the proportion of 1000 to 1546, and it has been observed that fewer deaths occur in infants below one year, than in those of three or four years; after ten years the influence of marshes is less to be feared, and the capability to resist marsh miasm increases up to twenty-five years, from twenty-five to fifty-five the susceptibility again increases, though it is never so great as in children between the ages of two and ten years. Old persons, as already stated, are more exempt from marsh influence. Food and exposure furnish conditions which favour its influence. Bad and ill-conditioned food, night air, especially when heavy dews are formed, favour very strongly miasmatic disease. When ill-clothed and ill-fed troops are forced to march by night in a marshy

country, it may be expected their ranks will be decimated. The emigrants from New England to the rich western prairies, or to the rich bottom lands of the western rivers, may expect disease and death; provided they plough up those prairies or bottoms, and thereby expose themselves to exhalations from a surface charged with animal and vegetable matter. These are calamities which the first settlers can scarcely expect to escape; circumstances may delay the development of diseases, when a favourable season may occur, but they seem to be inevitable in the end.

From observation, it appears that disease will be in proportion to the concentration or amount of miasm to which an individual may have been exposed. Hence precautionary measures will not be useless. A residence by the side of a marsh or upon a prairie where the turf has been newly turned up, should be closed upon that side towards the miasmatic grounds, when the wind blows from them. So the night air should be avoided, especially after hot and sultry days, when much dew will be formed, or rather where much exhalation will take place when the miasm will be concentrated in it at night fall. So it is important that the vigor of the system should be promoted, and that during the period when there is greater exposure to poison, the different vegetable tonics should be employed, as quinine, which is the most powerful, or for want of this, pulverised bitter barks, or infusions of them, as the eupatorium, boneset, &c. Such a plan would at least mitigate the effects of the effluvia.

Great fatigue, hard labour, favour also the influence of marsh poison. Closing windows, keeping within doors, avoiding dews, moderate labours, and a tonic regimen, may be set down as some of the preventives to the influence of the poisonous exhalations of marshes.—*American Journal of Agriculture and Science.*

Profits of Farming.

Messrs. Editors,—I have been much interested with various papers that have appeared from time to time in the Cultivator, on the profits of farming; but in my opinion, some of the writers have taken a wrong view of the subject—making the profits of farming to resolve itself into a mere question of dollars and cents; than which, nothing can be more foreign to the object, or less satisfactory to the reflecting mind. But, as example teaches before precept, here are the reflections of a man, an adjoining neighbour, who two years ago left a lucrative business in Philadelphia, and bought the farm upon which he now resides, for the sole purpose of making a *profit*, and in which he has succeeded beyond his hope, and equal to his most ardent desire.

To the question, whether he did not find the profits of farming few and small, when compared with those of trade? he answered, "Quite to the contrary; I have already realized far more than the most I had dared to contemplate, and am, at the end of two years, richer than I ever could have become in twenty years of successful trade. It is true, I made more dollars and cents in trade than I now do, but that is *dross*, when compared to the blessings of health of body and peace of mind, which gold and silver can never purchase. Do you remember what a heavy, paunchy fellow I came among you? See me now leap this gate—there; why the attempt would then have burst me up! And the best article I could take to the city for sale, would be my appetite at 12 o'clock dinner; at which, the bacon and cabbage require no topping off, with either *pie* or *pudding*. You remember when I was as broad as long; I am now as proportionate as yourself; eat, drink and sleep, with an appetite; yawn at bedtime, and never in the morning; am up before the sun, yet the day is never too long: and more than all, *I have no acceptances to take up.* Money! why what use have I for it? I grow my own bread and meat, poultry and eggs, honey, milk, cream and cheese, with vegetables and fruits of every kind, and in the greatest abundance; feathers for my beds, wool for my stockings, blankets and common clothing; lard for my lamps, candles and soap, and straw for my hats; enjoying the luxury of my dog and gun, a carriage and pair for myself and family, with house-rent and fuel free! At the same time, by good management, my estate is annually increasing in value; while my property—no longer consigned upon trust to the four winds—is secured on the surest foundation; surrounding my dwelling, and under my own eye. Then, what oh earth is the use of money? I can't eat or drink it, even if it were cut into mince meat. It is not only the "root of all evil," but the source of disease of body and anxiety of mind, inseparable. So I, for one, am content with the profits of farming; for the fact is, it leaves me scarce anything to *wish* for, much less, to *care* for."—*Boston Cultivator.*

It is not known where he who invented the plough was born, or where he died; yet he has effected more for the happiness of man than the whole race of conquerors.—*Colton.*

From the Cultivator.

Bees.

A KNOWLEDGE of facts constitute science. Correct observation alone, can lead to a knowledge of any science; from such knowledge only, will correct practice result.

The honey bee has been a prolific theme for guessing, among ancients as well as moderns. Numerous contradictory theories are advanced, extremely perplexing to the inexperienced apiarian, some of which must be refuted or reconciled by attentive observation, before uniform success can be expected. To refute some of these incorrect theories by a relation of facts, is the object of this communication.

That my observation may not appear too limited, I will say that I have had the care of bees for more than twenty years; and since 1840, of over one hundred hives.

In my experience, whenever I have discovered any dead larvæ, however few, they have never failed to increase and ruin the hive. When I first had diseased bees, I pruned out all the brood comb, leaving such only as contained honey. The bees made new and filled it with brood, which invariably became diseased. This suggested the idea of its being a contagious disease, and that the *honey* in such hive contained the poison. I have accordingly taken such honey and fed it to healthy young swarms, while raising young brood, as many as a dozen times, and never knew an instance where they escaped the contagion.

Three years ago in March, I had a good swarm leave the hive and go in with another good one; and as there was a plenty of honey, I expected an early swarm, but got none at all. They gradually diminished till the last of June, when not more than half a swarm remained, and upon examination, I found the comb filled with larvæ, nine-tenths of which were dead. In 1840, I had two large swarms come out together, which were put into a barrel, and in the fall they were diseased. Several young swarms shared the same fate. The strongest are just as likely to become diseased, as the weakest colonies.

I have not escaped a year in fifteen without having several hives to suffer before swarming, and last year no worse than others. When swarming time arrives, and I have any that have not increased as usual, on examination, I generally find diseased bees, and as my only remedy, drive them out, satisfied that they will grow worse after catching the distemper. So well assured am I of this fact, that I make two general examinations. About three weeks after the first swarm has left a hive, the young that are alive are generally hatched. If I find any of the breeding cells closed,—which is always the case with dead larvæ,—I open them with the point of a knife, and if dead give the bees a new habitation at once. Again, in the fall, every hive is looked to, and a half dozen diseased larvæ condemns it at once, for a stock hive. I will give any person twenty-five dollars, who will give me an unfailing preventive or remedy for this disease; and I can well afford to do so, as I lose yearly by it twice that sum.

I have objections to some theories offered by Mr. Weeks, but before I state them, I must say that I am greatly indebted to him for information through the Cultivator, on the subject of bees. I would not exchange what I have learned for all the paper has ever cost me. But error, from any source, ought to be corrected. First, then, he says: "two causes, and two only can be assigned why bees ever swarm; the first, the crowded state of the hive; the second, to avoid the battle of the queens." I object to the first, because it is insufficient in all cases to make them swarm, and swarms do actually come out independent of either of these causes. I do not say bees being crowded will not sometimes bring out swarms, but some other cause must exist in such instances as the following. I have known all the bees to swarm from a hive, when a pint measure would contain the whole of them. Ten years ago, I had bees in a large box; before it was a quarter full, a regular swarm left. Last spring, to give the principle a fair test, I placed under five full hives of ordinary size, others of equal dimensions, without a top, so that the bees could continue their combs to the bottom if they choose, but not one has done so; each has swarmed without filling the lower hive an eighth part full. Want of room could not be the cause here, nor could they have swarmed to avoid the battle of the queens, for I have good reason to believe that the old queen led each swarm.

I have known bees so crowded that a great portion of them were obliged to remain out all summer, and yet they did not swarm at all. I have known swarms come out and return two or three times, and then continue in the old hive all summer, notwithstanding the young bees continued to hatch and increase the crowd in the hive. The fact is, no single theory will account for all swarms. I have noticed, however, that all regular swarms must be in a season when there is plenty of honey, and this is generally between the middle of May and the middle of July. We often have swarms in this section in August, between the 15th

and 25th, when the bees are at work on buckwheat. At such times all good swarms will raise a brood of drones, whether the queen be young or old. Although this contradicts the theory that the queen must be at least eleven months old before they lay eggs for the drones, it is certain they will raise them at any time when they get plenty of honey, and as it gets scarce they will destroy them—consequently the last of July is a time of massacre. In the summer of '42, they killed them the fore part of June, and we got no swarms, but the hives were crowded with bees. I never had a swarm when they were destroying the drones.

Mr. Weeks says—"when the first swarm leaves the hive, no queen, in any stage of existence, is left." But I have examined hives the same day that the first swarms left, and found cells finished containing queens. This has been the case in four hives out of five. I have driven out a swarm after several days of bad weather, and found queens' cells finished. Four hours of sunshine in the middle of the day, would probably have brought out the swarm. While examining a glass hive, during the past summer, I saw the bees constructing a royal cell. I watched it for more than a week. When finished I predicted a swarm, —although none were crowded outside for want of room. The very day I expected them, they came out. In eleven days after, a second swarm came out. Previous to the last leaving, I had the satisfaction of seeing a young queen several times while making the piping noise, such as we can always hear just before the coming out of all swarms excepting the first of the season. She appeared very uneasy, running about in all directions, only stopping to vibrate her wings against her body, which was done simultaneously with the sound. This proves that queens sometimes make the noise when they are not in the cells. The other bees made no attack upon her, as some writers have stated they will do in such cases.

The supposition that all hives are left destitute of a queen when the first swarm leaves, has led to error in practice. Mr. Colton, of course, thinks, that young queens are unnecessary to produce swarms, as it is said his hive can be made to swarm within two days, at any time. Mr. Jones' dividing hive is on the same principle. I had supposed it was an established fact, that if a swarm was driven out with the old queen, leaving plenty of bees and young brood in the comb, queens might be raised as well as if they had swarmed, but I was mistaken. I tried three at first—not one swarmed. The only way in which I have ever succeeded in making them raise a queen from workers' eggs or larvæ, is to give them but a small piece, and then twelve days is as soon as they can perfect one. When I have occasion to take out a swarm and leave bees in the old hive, I find I must be very cautious, especially if it is not in swarming season. If I can see no preparation for a queen, I generally supply them with one in the cell. If any one doubts there being any young queens commenced at the time the old one leaves, they can be satisfied that they are so,—at least sometimes,—by the following mode of examination. The evening after a swarm has left, or the next morning, blow some tobacco smoke into the hive to stupify the bees; turn the hive bottom upwards, puff some smoke between the combs; the bees will retreat and give an opportunity to examine the combs, to the distance of six or eight inches into the hive. In many hives there will be some sheets of comb that do not extend across the whole way, making an edge somewhere near the middle. On this edge is generally placed the royal cells. Sometimes they are on the outside, next the hive, and often on the bottom. Look through the hive, giving the bees a puff of smoke occasionally, to keep them quiet. It is very seldom the queen cells are so near the top as not to be seen. I counted nine the past summer, in one hive, within two inches of the bottom. Some were sealed over, others not more than half done. This was the next morning after a swarm had left.

Another point in dispute, is whether the queen ever leaves the hive, excepting when leading a swarm. I have seen them do so often, in all instances between one and three o'clock, P. M., at which time more drones are out than at any other. She always came from a hive that a first swarm had left some fifteen or twenty days previous; consequently they were young queens.

Mrs. Griffith, of New Jersey, I think, has watched for this, and felt confident that no such occurrence ever took place, and she has added as an objection, that as the prosperity of the hive depended on one bee, and that one should leave for an excursion in the air, it would be liable to be devoured by birds, driven off by winds, or destroyed by other casualties, by which the hive would be lost. Now, just such cases do actually occur. The queen at this period, from some cause, is occasionally lost—one in twenty, on an average,—and with me, this year, one in ten. The apiarian who cannot ascertain this loss, does not understand his whole business, and as there are many who do not, I will say that if they would take the trouble to look at their hives for a minute in the

morning, before the bees commence work, about fifteen or twenty days after swarming, they could, by the commotion of the bees, ascertain the loss of the queen. They will see the bees running about in all directions, while in other hives they are quiet. In the middle of the day it is not so easily perceived. After two or three mornings they seem to become reconciled to their fate, and continue their labours as others do. I noticed this in one of my hives before I had half a dozen, and occasionally ever since. The result generally has been, that before cold weather, or very soon after, the bees would all be gone, and yet the hives nearly as heavy as others.

Now, when I have a case of this kind, and I have had a swarm within a week, I proceed to look for queen's cells, and with a broad knife I cut out one or more—as they generally have several I have no fears of leaving them destitute,—and introduce it in a vertical position into the hive that has sustained the loss. In a short time all will be quiet. I have often put it in through a hole in the top of the hive, taking care that the lower end shall touch nothing. If more than a week has passed after a swarm has left a hive, it is unnecessary to look in that for a spare queen, for they are generally all destroyed by that time, unless they intend to swarm again, which can be ascertained about the eighth day, by listening close to the hive for the piping noise.

Second and third swarms often have several queens—I once had six in one swarm. When necessary, I take one of these and put it in the hive—even if there is but one, I take it and let the swarm go back; which is often an advantage, besides giving the old hives a queen. But if no queen can be had in any way, a piece of brood comb containing eggs or larvæ of workers must be introduced, but this is more uncertain to produce a queen. If all these circumstances were duly attended to, we should have less complaint of hives being found destitute of bees and full of honey—or as is often the case, full of worms. Such instances often occur with negligent bee-keepers, when they supposed the bees were doing well.

Some suppose that bee-bread is changed to honey. I wish the time necessary to effect the change was stated. I have had it two years old, or more, and it was still bee-bread. I have "lots" of it every year when I am making wax. I have put it on my garden, but can see no great effect from it as manure, and should like to turn it to some better account. There is no doubt that the bees collect the pollen or bread for food for their young. One circumstance in particular confirms me in this belief. When a hive loses its queen, and is not supplied with one, there is of course no brood, but if there is plenty of bees, nearly every cell will be two-thirds full of bread, and finished out with honey and sealed over. The comb looks very well outside, but it is disagreeable to eat in this condition, and it is impossible to separate all the honey from it, and I have never been able to get out all the wax.

I have had two or three young swarms lose their queen a few days after being hived, and they filled the hive nearly full of what appeared to be very nice honey; but a person taking it for such would be greatly mistaken—it is as much bitter as sweet.

Other theories have been advanced which are contrary to my experience, but the objections would lead to little practical utility, and I shall say nothing of them here. I did intend to have said something on economy in the construction of bee-hives, but have not room.

M. Quinby.

Coxsackie, N Y., 1847.

From the N. Y. Agricultural Transactions.

Preparation of Sandy and Light Soils for Wheat.

B. P. Johnson, Esq., Sec., &c.:

As these are truly the days of improvement in the various sciences, it is somewhat surprising that agriculture should be so far in the back ground. There are some encouraging appearances, and inquiry begins to pervade the public mind, to see if there cannot be some improvement in this all-important branch of public industry also. I would therefore offer my mite to my brother farmers, on the preparation of fallows for wheat.

Some nine or ten years since, I adopted a new method of preparing fallows for wheat, which was *one ploughing*—and this I follow whether I plough in June, July, or August. I apply the cultivator as often as necessary, to prevent any vegetation from growing, and the land is thus kept perfectly clean for the seed. Should the land be quite hard it makes no difference, but is all the better, if you can obtain sufficient loose soil to cover the seed.

When I first commenced this mode of farming my neighbours laughed at the idea of obtaining a crop in this way. In the course, however, of two or three years, they became convinced, by observing that I raised the best wheat, according to the quality of the soil, and I am happy to say, that very many in this region, have adopted the same plan, and I do not know of one who has had

occasion to regret it, for in every instance that has come to my knowledge, it has succeeded well. My land is what may be called coarse sand and gravel, sandy loam, and some rather stiff sand. Whether the same practice would answer on a hard and clayey soil or not, I cannot tell.

I sow my wheat generally between the 10th and 25th of September. When the wheat is sown the cultivator is passed over the land but once, which covers the wheat better than two or three times with the harrow. By the above plan, about one-half the usual labour on fallows is saved, and a more bountiful crop may be anticipated, than from the former method of ploughing three times, and using the harrow two or three times. It is a well known fact, that a stiff, hard clay soil, provided the ground had been well prepared, will grow more wheat to the acre than can be grown on a sandy or loamy soil. Now the question is, why is this so? To me it is obvious, the wheat plant grows most luxuriant on a hard soil, and that is the reason that one ploughing on these sandy soils, is preferable to three, and that land thus prepared will produce more wheat to the acre. The one ploughing leaves the ground hard compared with three ploughings, which, in these soils, leave the land loose, open and spongy, unsuited to the plant. This has been tested often in this neighbourhood within the last few years.

The practice which I have adopted, is confirmed by a statement given by Henry Colman, Esq., in his account of the culture of wheat in England. He says: "The soil preferred for wheat is a strong soil, with a large proportion of clay; but experience has of late years, contrary to early and strong prejudices, determined that even the light and loamy soils are capable of bearing heavy crops of wheat, provided they can be sufficiently consolidated. This is often done by driving sheep over the land after sowing, and by an implement called a *presser*."

"This implement passes over the land in the direction of the furrow, and it forms on the furrows two deep drills at a time, the two rollers being eight or nine inches apart, and the blade of the roller, if it may so be called, or the rim being thin at the edge, and growing wider above the edge; and forming as it revolves, two furrows, hardened by its weight, into which the grain drops as it is sown; and when it comes up, it appears as if it had been regularly sown in drills of eight or nine inches apart, according to the width of the revolving pressers from each other." "The steam-presser is in fact an abstract of a drill roller, consisting of but two cylinders of cast iron, which following the plough in the furrows, press and roll down the newly turned-up earth."

"I believe the soil for wheat cannot be too deep; though, as I have already stated, it may be too loose at the top, and in such cases, requires shallow ploughing and treading, or pressing on very light soils, in order that the roots may be firmly fixed in the soil, and the dirt not liable to be blown away from them."

I use a two horse cultivator for putting in all seeds, such as wheat, rye, oats, barley, and best of all for peas. This covers about six feet at a time. I use a smaller one for corn, having given up entirely the use of the plough. I have given above my views with regard to the proper management of sandy and light soils for wheat; and if it shall prove advantageous to the farmers of New York, I shall be satisfied.

Yours respectfully,

ELIAS COST.

Oaks Corners, Ontario co., March, 1847.

Peruvian Industry.

THOSE who may distrust the accounts of Peruvian industry, may find their doubts removed on a visit to that country. The traveller still meets, especially in the central regions of table land, with memorials of the past, remains of temples, palaces, fortresses, terraced mountains, great military roads, aqueducts, and other public works, which, whatever degree of science they may display in their execution, astonish him by their number, the massive character of the materials, and the grandeur of the design. Among them, perhaps, the most remarkable are the great roads, the broken remains of which are still in sufficient preservation to attest their former magnificence. There were many of these roads traversing different parts of the kingdom; but the most considerable were the two which extended from Quito to Cuzco, and again diverging from the capitol, continued in a southern direction towards Chili. One of these roads passed over the grand plateau, and the other along the lowlands on the borders of the ocean. The former was much the more difficult achievement, from the character of the country. It was conducted over pathless sierras buried in snow; galleries were cut for leagues through the living rock; rivers were crossed by means of bridges that swung suspended in the air; precipices were scaled by stairways hewn out of the native bed; ravines of hideous depth were filled up with solid masonry; in short, all the difficulties that beset a wild and mountainous region, and which might appal the

most courageous engineer of modern times, were encountered and successfully overcome. The length of the road, of which scattered fragments only remain, is variously estimated from fifteen hundred to two thousand miles; and stone pillars, in the manner of European mile stones, were erected at stated intervals of somewhat more than a league all along the route. Its breadth scarcely exceeded twenty feet. It was built of heavy flags of freestone, and in some parts, at least, covered with a bituminous cement, which time has made harder than the stone itself. In some places, where the ravines had been filled up with masonry, the mountain torrents, wearing on it for ages, have gradually eaten a way through the base, and left the superincumbent mass —such is the cohesion of the materials— still spanning the valley like an arch!—*Prescott's History of Peru.*

Keep Animals in good Order.

It is an old saying, that animals in good condition in December, are half wintered. This is no doubt true, they not only require much less keep during the winter months, but are far more profitable for labour or for whatever purpose they are kept. Cows, oxen, steers, sheep, horses—in fact, all animals, as soon as the food becomes short or insipid, should be fed regularly from the barn. It is often the case that animals that have had the advantage of what is considered a "good run" during the summer months, upon the decrease of food in autumn, suddenly fall away, become poor and dispirited, and require regular feeding to preserve them in health and heart. A little attention, under such circumstances, will often be the means of obviating much trouble and expense. By exposure to the winds and chilly storms of the late autumn, there is often laid the foundation of wasting and cureless disease; debility and languor, loss of appetite, and inaptitude to fatten, by this means often induced, occasioning suffering to the animals and loss to the owner, who is not unfrequently ignorant of the true cause, and at a loss to conceive why *his* animals are not in as good a condition and health, and as thrifty and well-looking as his more careful neighbour's, who provides both food and shelter for his stock, and is careful to see that no circumstance requisite to their comfort is neglected or overlooked.

There is probably no animal more generally and shamefully neglected in this climate than the sheep. The presumption that they are capacitated to endure extreme cold without any obvious or serious detriment, is an error that cannot be too speedily corrected. No animal is more severely affected by cold storms and exposure, or more capable, consequently, of rewarding amply an extra expenditure in the provision of secure shelter and good keep. The old adage, "A merciful man is merciful to his beast," is one that we wish to see more generally recognized and applied.—*Olive Branch.*

Heated Rooms.

Rooms heated with anthracite coal, and rooms heated with close stoves, in which wood is burnt, have very dry atmospheres. The use of water in such rooms is very congenial to health, but the water should not be placed in an iron or tin vessel upon the stove, for the reason that it will undergo that degree of heat which will make its vapors offensive and injurious to breathe. It is as injurious to the human system to breathe putrid water vapors of this kind, as it is to breathe the vapors from stagnant ponds in hot weather. If water is used upon a stove, an iron pan should be made use of, and this filled with dry sand; in the sand set an earthen bowl, filled with clean water, which should be changed twice a day, and the bowl washed and kept as clean as if used for a drinking vessel.

Where hard coal is burnt in a grate, a glass globe should be suspended in the room, filled with clean pure water, and as the heated air rises to the top of the room, it will steadily evaporate the water and moisten the dry and heated air. Persons who prefer the atmosphere of salt water vapor, can add salt to the water, or, if they prefer an aromatic atmosphere, they can add cologne water, or any other perfume which they prefer. It is as important to have clean air for breathing, as to have clean water for drinking. Basement rooms, where hard coal is burnt, should be frequently ventilated. Small children accustomed to stay in basement rooms, find a bad air near the floor. The air should be removed by allowing the doors to be opened frequently, to let in fresh air. A little care in these matters will tend wonderfully to comfort and enjoyment.—*Ex. Paper.*

The Potatoe.

The Morris Jerseyman says: For a few years past public attention has been directed to the cause of the potatoe rot, as also the remedy, but nothing satisfactory has been elicited. One of our farmers, a few days since informed us, while in conversation on that subject, that he planted his potatoes earlier this season than usual, and that he

dug and put in his cellar some 30 or 40 bushels before the rains came on. These are still perfectly sound, while those which remained in the ground during the recent heavy rains are utterly worthless. To the autumn rains many have attributed this *rot*, and consequently they put their crops in very early, to enable them to arrive at maturity before the rains commenced. The experiment mentioned below may be considered of some consequence, as we have seen it satisfactorily tried. A lady from Mississippi spent the past season with her friends in our town. The all-engrossing subject of the *potatoe rot* was on the tapis, when she observed that in that region many of the planters had been experimenting on that vegetable, and the best result was from transplanting the slips into rows, similar to the method of cultivating the Carolina potatoe. Her friends tried the experiment, and finer potatoes we have not seen or eaten for many years. The potatoe is planted early in a hot-bed, and the slips when about three inches in length, are taken off and transplanted some eight or fifteen inches distant. The original will continue to send forth shoots for a long time.

Rules for Milking.

A WRITER in the Maine Farmer gives the following rules for milking cows: "Having milked more or less, every season since I was a boy, and having seen it done so poorly as to injure the cow, I purpose to give a few rules for it which I have learned from my own and other's experience. They are as follows:

1. Have a good stool to sit on.
2. Have all your finger nails pared short and smooth.
3. Sit down and clean the bag, and wet the teats with the first stream of milk.
4. Then set your pail under, and milk as fast as you can conveniently—the faster the better. A cow will give more milk when milked fast than when milked slow.
5. Milk as though the teats were full to the last, otherwise it makes them long to "strip in a little while."
6. Never scold or strike a cow for running about the yard or kicking. It generally does more harm than good.
7. If she runs about, have patience, talk kindly to her, and tie her up as a last resort, till she is not afraid.
8. If she kicks, sit forward far enough for your knee to come forward of her leg, and she cannot easily hurt you or spill the milk.
9. If she switches you with her tail, in "fly time," fasten it by parting her hair and tying it around her leg. Use a string, if the hair is not long enough.
10. If she holds up her milk, butt with your hands. What else does a calf butt for, but to make the mother give milk down!

For the Farmers' Cabinet.

Culture of the Plum.

THERE are few things in the horticultural line that has surprised us more than the small quantity of fine plums cultivated in the vicinity of Philadelphia. It is true the *curculio* is a most persevering enemy to the plum—but this enemy is found more or less everywhere, even up the North river country, where thousands of bushels of the finest quality of plums are produced for the New York market.

What the plum most requires is a soil of heavy loam—if there is a large portion of clay, so much the better—for it is a fact well known that near Albany and Hudson, where more new fine varieties have been produced within a few years, than all other parts of the country—the soil is nearly a stiff clay. It would seem from the above that where the soil is sandy, or very mellow and porous, a good load of clay should be mixed with the soil about each tree. Swamp muck also, where it is difficult to procure clay, will answer an excellent purpose.

A great variety of measures have been tried to prevent the ravages of the *curculio*. We will now name some of the most successful. Salt has been used with the utmost success. Mr. Downing, in his admirable work, the "Fruits and Fruit Trees of America," states that the most successful cultivator of the plum in the neighbourhood of Newburg, applies half a peck of coarse salt to the surface of the ground under each bearing tree, annually, about the first of April. There is no doubt but salt is a most excellent fertiliser, and greatly promotes the growth of the tree. It is beneficial to most productions of the earth, and why not to the plum tree?

A good plan, according to Mr. Downing, is to strew salt under the limbs of the tree about a qarter of an inch in thickness, when the punctured plums begin to fall. Should there be heavy rains, the salt must be replaced. A correspondent of the Horticulturist last season, raised an uncommonly fine crop of plums from having strewed under his trees a quantity of long horse manure—he supposes the ammonia that rose from the manure was so powerful as to drive off the curculio. Another method is to turn in a sufficient number of hogs to eat up all the diseased fruit as it falls to the ground.

In some sections of the country the *black knots* are nearly as troublesome as the curculio. For this disease there is one simple and effectual remedy, and that is, whenever the knots are discovered, to cut off all the limbs so diseased, and immediately burn them. Sometimes it will be necessary to look over the trees two or three times in a year.

To show that plums can be and are raised in our own State, by those who choose to do so, we will mention a few facts within our own knowledge. Jacob Steinmetz, in Coates street, has a tree of the Blue Gage variety, that has produced ten bushels of fruit in a season. James Laws, in Seventh street below Noble street, has a Bolmar Washington tree, that has produced more than five bushels in a season—five of the plums weigh a pound, and the crop would in market command sixty dollars. In our next we propose giving a descriptive list of the thirty finest varieties of plums in the country.

B. G. Boswell.

Philadelphia, Dec. 29th, 1847.

The Scuppernong Grape.

This grape is destined without doubt to take a high rank as a fruit—and when the culture and the season are propitious, and the art of managing the fermentation is fully understood, a wine resembling the wines of the Rhine will be produced of excellent quality. The culture of this vine is simple, but it must always be recollected that it does best in rich dry loam. The growth is rapid after the first year, and will produce a fair crop the third year, if properly treated. The distance at which the vines should be planted, as standards, depends upon the object the planter has in view; if for shade and fruit, then twenty feet each way, but if for wine, and are intended to last for many years, then forty feet is the shortest distance. Arbours are, I think, best, because if the grape is exposed to the full rays of the sun it becomes hard and the skin is thick and tough. Trellis training exposes the fruit more to the sun, and causes maturity earlier than arbour training, and perhaps admits of pruning more easily—but all things considered, I give the preference to arbour training.

The old cultivators of this vine insist that pruning is not required, and that it is hurtful to the vines. I have not found it so—and when the vine is four years old I prune moderately every year. I whitewash my vines in the mouth of April, and cut into small parts the pruned wood and lay it about the roots of the vines. The fruit is larger and better when the vine is pruned, and I venture to say that it will be found, where wine is the object of the cultivator, that all the rules known for pruning will be observed on this vine as strict as any other.

I am very particular to lay out my ground so that no water stands about the vines.

The manure I use under my vines, when planted as standards, is composed of old bones, old shoes, old hats, old hoop-iron, and anything else of that class. Excavations being made, say twelve inches deep, are to be filled up to within an inch or two of the surface, and then planted, the roots of the vine being spread out and then covered one or two inches deep, and then train them up and never suffer them to fall to the ground. The training of the vine is all important upon the arbour, for if suffered to run together, it will, by means of its tendrils, mat together and produce but little fruit.

It should be trained with great care and the main branches spread upon the arbour, and tied down so firmly that the wind cannot move them.—*Alabama Planter.*

Yellows in the Peach.

For many years the peach tree has been subject to a disease known as the yellows. This disease seldom makes its appearance before the tree has arrived at maturity, as its great vigor and rapid growth appear to preclude the developement of the disease previous to the tree fruiting. Much time, labour, and research have been spent in fruitless endeavours to eradicate this disease after it has made its appearance in orchards, and the only result arrived at is the necessity for replanting new trees, to take the place of the old ones at short intervals of time. Many applications to trees have been recommended, and potash, lime, tobacco, banking up trees in winter, &c., have had their advocates. Although individual cures may have been effected, or decay for a time arrested by the remedies, yet such instances are extremely rare; and when applied on a large scale are shown to be without value. The disease, a true consumption, still continues, and will continue, unless some radical method is adopted to eradicate it. From my own observation and experience, I am led to the belief, that this formidable disease has been much aggravated and spread throughout the country by budding from trees containing in themselves the seeds of incipient consumption, not yet externally developed. A bud may be taken from a tree apparently sound, but after a time both trees will be affected and decay, and so on *ad infinitum*. The only remedy appears to be to bud from trees which are known to be

entirely sound, and in which no disease has appeared for several generations. By taking this precaution, growers may rely upon having trees, that with ordinary care, will live and bear fruit for many years, and in time eradicate this evil. That the disease, however it may have originated, has not its origin in either the soil or the climate of this latitude, is pretty evident. Natural trees can now be found in great numbers, of many years growth, alongside fences and other neglected situations, perfectly sound, and likely to remain so. These are the trees to propagate from; and although the fruit is generally of an inferior quality, yet a cultivation of a few years will render it of superior flavor.—*Farmer and Mechanic.*

Report of the Barnstable County Agricultural Society.

REPORT OF THE COMMITTEE ON FARMS.

In the performance of their duties, the committee have travelled nearly from one extreme of the county to the other, to examine into the present condition of its agriculture, and note the improvements which have been adopted in the management of farms, and in the cultivation of particular crops. Though the inhabitants of the county are, as a whole, a commercial people, the committee observed in all the towns the evidences of an increased interest in rural employments. The old system of planting exhausting crops for successive years, and till the diminished products do not repay the labours of the husbandman, now finds few advocates among the observing and the intelligent. Very few now plant more land than they can manure and lay down to grass in better condition than it was when broken up. More attention is paid to the collecting of materials and the making of compost manures; to the kinds of crops which are to succeed each other; to the reclaiming of swamps and boggy lands and meadows; and to the cultivation of trees and shrubbery for use and ornament. The effects of these improvements are visible in all our towns, in the appearance of the pastures and meadows; of the crops; of the enclosures, and of the grounds about the buildings.

The attention of the people has been generally directed to the utility of planting forest trees on the sandy beaches and commons in this county. Forest trees improve the soil on which they grow, and are a source of profit for timber and fuel; but their greatest use is the protection which they afford to the cultivated fields against the winds from the ocean, which stint and blast vegetation exposed to their unbroken violence.

The high price of corn last year induced the farmers in this county to extend its cultivation, and more land was planted with corn than in any one year for a long time past, probably more than was ever planted. The crop is not so good as last year. Many complain that the ears are not well filled; but on rich, well manured and well cultivated lands the yield proves abundant. The potatoe crop is almost a total faiture. The rot prevails in all the towns, and the committee have scarcely met with one who did not complain of his loss. Nearly all the instances in which potatoes have not suffered by the disease, are where dry sea weed was used for a manure. Little fruit has been raised this year. The trees have suffered from the depredations of worms and insects, some of which have been unknown in this county till within a few years.

The committee cannot, in this report, refer to all who have made "valuable and economical improvements in the cultivation and management of their farms and appendages." The following, among others, the committee conceive to be deserving of particular notice.

Thomas Lathrop, Esq., has accomplished a task which men of ordinary enterprise and industry would have considered impracticable or visionary. He has rendered fields, taken up in the low lands, among the barren sands of Provincetown, fertile in the production of corn, grass and vegetables.

John Doane, Esq., of Orleans, has by skilful management, rendered his farm five times as productive of grain and grass, as it was when he purchased it twenty-seven years ago. The soil was then exhausted, and most of it was thrown out to commons. The soil is generally light and sandy, and he has renovated it by carting and ploughing in sea weed, and by making compost manures in his barn-yard. The principal material used by him is sea weed.

Mr. Simeon Higgins, of Orleans, has also greatly improved his lands. He has made nineteen acres very productive, which a few years ago were barren and of little value. These changes he has effected by stable manures and composts.

The largest farms visited by the committee were those of Mr. Lewis Doane and Mr. Beriah Doane, situate in the east part of Orleans.

Mr. Lewis Doane's farm contains about 130 acres of arable land. The soil is naturally good and easily cultivated. He has clay, loam and sandy soils. His average annual crops for several years have been 500 bushels of corn, and 250 of rye, wheat and barley, besides potatoes, carrots, &c.

He pastures from 25 to 30 head of cattle, 50 sheep and three horses. The hay which he cuts is consumed on the farm, and he depends mainly on sea weed for manuring his lands.

Mr. Beriah Doane's farm contains about 230 acres of arable land. The soil is mostly clay and gravelly, and is naturally rich and productive. He pastures about 30 head of cattle, 50 sheep and four horses, and raises annually an average crop of 750 bushels of grain.

Mr. Charles Sears, of Yarmouth, paid $350 for his farm adjoining his homestead in 1832, and it was then thought that he paid its full value. It contains about thirty acres, and its annual productions at that time were, pasturage for two cows and 25 bushels of grain. Now, the same land produces annually, pasturage for three cows, ten tons of English hay, 200 bushels of grain, 100 bushels of potatoes and other vegetables. Most of the land is sandy—a small portion sandy loam and peat. On a part of the peat land which he has reclaimed, he cut, this year, at the first mowing, hay at the rate of four tons per acre. He has a field of four acres planted with corn, which will yield at least 40 bushels to the acre.

Mr. Sears, besides the manure from his stables, composts two or three hundred loads of manure annually from sea weed, marsh and fresh pond mud and other substances.

Only two farms were entered for premiums, and they were visited in July and October by the committee.

Mr. James H. Knowles' farm, in Eastham, contains nineteen acres of arable land, of easy cultivation. The soil is mostly a sandy loam, rich and deep and abounding in shells. Mr. Knowles is an intelligent and skilful farmer, and turns everything on his premises to some good account. His buildings and fences are substantial and neat. He has what no good farmer should be without, a cellar under his barn, open on the side next to his large barn-yard. He has made about 400 loads—of 25 bushels each—of manure the present year. He carts peat, sea weed, loam, muscles, and salt mud into his barn-yard. His cattle are yarded every night, and their droppings and the manure from his stable are intimately mixed with the materials carted in.

Mr. Knowles has pastured on his farm the present year, fourteen head of cattle, two horses and one colt, and cut ten tons of English hay. He planted two and a half acres to corn, the estimated product of which is 40 bushels an acre; three and a half acres of rye, which produced 60 bushels; three-fourths of an acre of oats, 35 bushels; one acre of barley, 37 bushels; and one-half an acre of potatoes, 70 bushels. Beside the above he has raised beets, carrots, and other vegetables. A particular statement of the products of his farm, the mode of cultivation, &c., will be furnished by him within the time prescribed by the Society. The gross income of his farm last year was $547, and his expenses for hired labour were $90. His income and expenses will not be materially different this year.

The farm of Braley Jenkins, Jr., of West Barnstable, was also entered for a premium. Mr. Jenkins has not furnished the committee with a particular statement of the products of his farm, mode of cultivation, &c., and was absent at the last examination. The farm is not one of the largest or most productive in the country. The soil is mostly sandy. A portion is loam, and naturally good. During the past year much attention has been paid to the composting of manures and the appearance of the grounds and crops indicated careful and skilful management.

The committee have awarded the following premiums, to be paid by the treasurer, if the statements required by the rules of the Society are filed with the Secretary by the 15th of November next:

To Mr. James H. Knowles, of Eastham, the first premium—one copy of Farmer's Dictionary and eight dollars and fifty cents.

To Mr. Braley Jenkins, Jr., of Barnstable, the second premium, $6.—*Yarmouth Register.*

Barnstable, October 21st, 1847.

Treatment oe Horses, *brought in hot from a journey or from any other labour.*—On taking off their saddles, bridles, or other harness, *turn them into a field*, and let them, *for* 15 *or* 20 *minutes*, roll and amuse themselves at pleasure. *After this* take them to the stable, and rub, curry, and groom them in the usual manner. By observing this method you will find your horses much sooner dried, and much less liable to break out into fresh sweats or to catch colds, than if at once taken into the stable. I tried it with my own horses,—saddle, coach, and farm,—for more than twenty years, and therefore speak from my own knowledge on the subject.

An Englishman.

"Plants intended to be acclimatized, should never be subjected to artificial heat during the winter that precedes their being planted out; if obtained from seeds, as little heat as possible should be employed in raising them."

The Drovers.

BY JOHN G. WHITTIER.

A freer, manlier life than ours,
No son of toil is living—
Through heat and cold, and sun and showers,
Still onward cheerly driving.
But, see, the day is closing cool,
The woods are dim before us,
The white fog of the wayside pool
Is creeping slowly o'er us.

The night is falling, comrades mine,
Our foot-sore beasts are weary,
And through yon elms the tavern sign
Invites us all to tarry.
The landlord beckons from his door,
His beechen fire is glowing;
These ample barns with feed in store
Are filled to overflowing.

From many a valley frowned across
By brows of rugged mountains;
From hill-sides where through spongy moss
Gush out the river fountains;
From quiet farm-fields, green and low,
And bright with blooming clover;
From vales of corn the wandering crow
No richer hovers over;

Day after day our way has been
O'er many a hill and hollow;
By lake and stream, by wood and glen,
Our stately drove we follow.
Through dust clouds rising thick and dun,
As smoke of battle o'er us,
Their white horns glisten in the sun,
Like plumes and crests before us.

We see them slowly climb the hill,
As slow behind it sinking;
Or, thronging close, from roadside rill
Or sunny lakelet drinking.
Now, crowding in the narrow road,
In thick and struggling masses,
They glare upon the teamster's load
Or rattling coach which passes.

Anon, with toss of horn and tail,
And paw of hoof and bellow,
They leap some farmer's broken pale,
O'er meadow-close and fallow.
Forth comes the startled good man; forth
Wife, children, house-dog, sally,
Till once more on their dusty path
The baffled truants rally.

We drive no starvellings, scraggy grown,
Loose-legged, and ribb'd and bony,
Like those who grind their noses down
On pastures bare and stony—
Lean oxen, rough as Indian dogs,
And cows with dust-dry udders,
Disputing feebly with the frogs
The crop of saw-grass meadows!

In our good drove, so sleek and fair,
No bones of leanness rattle;
No tottering, hide-bound ghosts are there,
Of Pharaoh's evil cattle.
Each stately beeve bespeaks the hand
That fed him unrepining;
The fatness of a goodly land,
In each dun hide is shining.

We've sought them where in warmest nooks
The sweetest feed is growing,
And priced them by the clearest brooks
Through honeysuckle flowing;
Wherever hillsides, sloping south,
Are bright with early grasses,
Or, tracking green the lowland's drouth,
The mountain streamlet passes.

But, now the day is closing cool,
The woods are dim before us,
The white fog of the wayside pool
Is creeping slowly o'er us,
The cricket to the frog's bassoon
His shrillest time is keeping,
The sickle of yon setting moon
The meadow mist is reaping.

The night is falling, comrades mine,
Our foot-worn beasts are weary,
And through yon elms the tavern sign
Invites us all to tarry.
To-morrow, eastward, with our charge
We'll go to meet the dawning,
Ere yet the pines of Kearsarge
Have seen the sun of morning.

When snow-flakes o'er the frozen earth
Instead of birds are flitting;
When children throng the glowing hearth,
And quiet wives are knitting,
While in the fire light strong and clear,
Young eyes of pleasure glisten,
To tales of all we see and hear
The ears of home shall listen.

From many a Northern lake and hill,
To Ocean's far-off water,
Shall Fancy play the Drover still,
And make the long night shorter.
Then let us still through sun and showers
And heat and cold be driving;
A freer, manlier life than ours,
No son of toil is living!

National Era.

SHEEP are more subject to diseases of the eye that lead on to blindness, than many persons who are most accustomed to them imagine. It is a singular circumstance, and not so well known as it ought to be, that if the eyes of a flock of sheep are carefully examined, half of them will exhibit either disease then present, or indications of that which existed at no very distant date.

From the American Agriculturist.

Swarming of Honey Bees.

The cause of swarming, in all cases, is an excess of population, the bees not having room for all to work to advantage. When bees are placed in very large hives, or when they are quartered in an open room, as is sometimes done, they never swarm. Swarming may also be prevented by affording additional room, either at the bottom, top, or side of the hive during the swarming season. As a matter of profit, in the increase of stocks, bees should never be placed in rooms, or in hives larger than twelve inches square. If we should hive two swarms, the one in a hive *two* feet square, and the other in a hive *one* foot square; or in hives of the same solid contents, though differently shaped, the result of the increase of each, at the end of five years, would be, with good management, about as follows, viz: the swarm in the larger hive would about half fill it with comb the first year; the second year it would be completed, but no new swarm. The following spring would find the hive full of comb, but only half full of bees; and it would require the third year to replenish, and so it would continue *ad infinitum*, yearly replenishing its lost population, and at the end of fifty years you would have no more bees than when you commenced!

The other hive would be plumply filled the first year; the second year a couple of prime swarms might be calculated on; the third year, we will say, only one swarm each—a very low estimate—we now have six swarms; the fourth year we will double to a certainty, and the fifth year the same, making twenty-four swarms, while the larger hive "stands alone in its glory," if not entirely annihilated by the ravages of the moth, the more probable result of the two. In each hive there is but one queen, which is the source of all the increase. The eggs are laid by her. A hive one foot square is as large as she can use. In such a hive all the workers that she desires to carry out her ends can be fully accommodated. Ten thousand bees to a hive in the spring are all-sufficient—more would be but an encumbrance; hence, we find, that though there be one hundred thousand in a large hive during the breeding season, the following spring finds them departed to that "bourne whence they never return."

The principal laying of the queen depends much upon the mildness of the spring, and much upon the strength of the stock. I am fully satisfied that many of my stocks are in progress of breeding through the entire winter, to some extent. Indeed that such is the case with any populous stock we have abundant proof, in cases where the stock has been destroyed in the heart of winter, as an experiment to test the fact. Where such is the case, there is not that diminution in the number of the bees from fall to spring that ordinarily occurs. In weak stocks, the internal heat necessary for the maturing of the young brood cannot be produced, and we find that such stocks are compelled to await the approach of warm weather. Here we have the basis of prosperity in a nut-shell. If we cannot so manage that our hives will be populous to their greatest capacity, we may as well give up the idea of perfect success at once.

If the hive be well filled, the queen is fully aware that a large portion of her increase, which the laws of nature compel her to give, must leave her domicil; and she also, through instinct, learns that each swarm must be provided with a queen-regent, like herself, in order to perpetuate their species. These queens, or rather princesses, are produced from the common egg from which issue the workers, or from a common worker-grub, in its primary stages of advancement by a particular treatment. This fact is shown by the mode of artificial swarming, now practised to some extent; the philosophy of which is this: if a piece of comb, containing the young brood of different stages of maturity, be attached to the top of an empty hive, and a quantity of bees be placed therein, having no queen, they will select a certain aged grub from the comb afforded them, and by a particular process of nursing and feeding—the nature of which never was nor ever will be known by us—they will produce a perfect queen, and proceed in their avocation as usual. Without this piece of comb no power or ingenuity of man could cause the bees to perform a single day's labour.

As each swarm requires a *princess* from the old stock, from two to six are generally produced every spring, and such as are not wanted are immediately put to death, as it is entirely out of the question for more than one to exist in the same hive, unless it be during the short period awaiting the issue of a swarm. A very remarkable circumstance occurs in the developement of these young princesses; they are so timed in their maturity as to issue from their cells respectively just as thay are wanted to take their departure with the swarms. That is, giving them a short period after quitting their cells to gain strength for the journey, say forty-eight hours. It must here be borne in mind, that where there is sufficient room, as in very large hives, the queen sees no necessity of

swarming, and consequently takes no measures to furnish the young princesses.

Indeed it often occurs, that she neglects to do this in cases where the greatest necessity exists for them; and as a swarm never leaves in such a case, we find many of our hives loaded with bees, clustering around and below during the entire warm season, which we watch with anxiety from day to day, or hour to hour, wondering what can keep them spell-bound to their tenement! As the needle invariably points to the north pole, and no human power can change this law of nature, so is the queen-bee the loadstone that draws every bee to her. The broiling rays of a summer sun, famine, nay, the prospect of a certain death cannot move them. But when a young queen sallies forth on the wing of uncertain destiny, she is the magnet that draws after her a goodly portion of the animated mass. Whither she goes they follow, and as she would gather her subjects around her, preparatory to the journey, she selects a slender branch of some small tree and alights. The bees at once commence clustering around her, perhaps some few minutes before the last have left the hive. Whether the bees ever select a habitation before leaving the hive, is a matter of doubt with me. They sometimes do take at once, after issuing, to some suitable tenement, such as a decayed hive, or some hole in a building, or perhaps they may cluster for a few minutes, and then rapidly take their flight to the forest. All of this may be and probably is concerted after swarming. In confirmation of this, I once had a swarm issue from the hive in which the day previous it had been lodged, and after revolving a long time in the air, settled down upon the very hive from which they had just issued. Now here is an instance where a particular location is fixed upon while on the wing. What caused this singular operation I cannot say, unless it was that they took some dislike to the hive, and afterwards concluded to try it again. In order to remove such a difficulty, I took another hive, and as soon as they had fully clustered set it upon a table, and also set the hive with the bees upon its side near it; then with a dusting brush swept them gently down upon the table, and they quietly entered the new hive, and did well.

The number of bees produced from April to July, in a strong stock, may be estimated at from 20,000 to 30,000. The first swarms I have generally found to be the largest, though some consider that in general the second are. The third are usually small. The period between first and second swarms is nine days; between second and third six or seven, and if yet another, the next day or two. The time, however, is dependent upon the weather. If we have hot, sultry weather, the bees mature more rapidly, and are increased in numbers, and consequently throw off swarms faster, but we need never look for a second swarm sooner than a week, and if the weather be cold and wet, it may be delayed fourteen days.

There is a catastrophe attending a rainy spell of weather during the swarming season, that many persons may not be aware of, which is this: the queen, in laying the foundation of new princesses, calculates upon their maturity at certain periods; when, if the weather should permit, swarms would be ready to issue, according to her principles of the science; but as she cannot foretell the weather, she is often caught with three or four of these royal scions on hand, and the weather does not permit the issue of a swarm for several days, as fine weather for such an operation alone will do.

As these princesses ripen in maturity, a spirit of jealousy begins to be engendered, that sets the whole hive in an uproar. Here is a sad dilemma! The old queen expects to go off with the first swarm, in person, as soon as the weather becomes fine; in the mean time there are several young expectants of assuming the reins of government, who begin to show a spirit of revolt as they grow in strength and age. If this state of things last for a week, through rainy weather, their jealousy becomes so furious that a general fight of extermination takes place, and the one that finds herself alive last, assumes the reins of that stock; and if all the princesses have matured, there will be no more swarming that season.

This is another reason why bees do not swarm, when we think they do not know what is for their own interest; but I assure the reader, that when they do not send off swarms, it is for a good and sufficient cause, though we way not be able to comprehend it.

T. B. Miner.

Ravenswood, L. I., May, 1847.

Mahogany.—Dr. Gibbons, an eminent physician, in the latter end of the seventeenth century, had a brother, who was the first that brought from the West Indies some mahogany logs to London, for ballast. The doctor was then building him a house in Covent Garden, and his brother, the captain, thought they might be of service to him, but the carpenters found the wood too hard for their tools, and it was laid aside as useless. Soon after, Mrs. Gibbons wanted a candle box, and got a cabinet maker to make it out of the useless wood lying in the gar-

den. The box was made, and the doctor was so pleased with it, that he got the cabinet maker to make him a bureau of it, and the fine colour and polish of it induced him to invite a great number of his friends to see it, and among them the Duchess of Buckingham. Her Grace begged the doctor for some of the wood, and got Woolaston, the cabinet maker, to make her a bureau also, on which the fame of mahogany and Woolaston was much raised, and it became the rage for grand furniture. No other wood has excelled it yet.—*Farmer and Mechanic.*

"Break the Crust."—Many years ago, when I lived in Connecticut, a man from among my acquaintance removed from that State into Vermont. He was a farmer that understood his business and attended to it. Some years after, I made a tour into Vermont, and the first call that I made after crossing the river out of New Hampshire, was at his house. He had got a fine farm, a good proportion of which was intervale on the Connecticut. There was a field of three acres on the intervale before the door, which, he said, when he came to make his purchase, had on it a very stunted growth of corn. To use his own words, "it was but little bigger than pennyroyal." He asked the owner the reason of the corn making such a miserable appearance. He said he did not know. But, said my friend, "I knew." He finally bought the farm, and the next season undertook to renovate that field solely by ploughing. He ploughed every opportunity through the season, taking care to plough only when the dew was on, or immediately after a rain. He went over it a number of times in the season, and sowed it with wheat in the fall; and when he came to harvest and thresh it, he had 154½ bushels, averaging 51½ to the acre.—*Cultivator.*

Local Technicalities.—*A Ready Rule for Farmers made Readier.*—A "quarter of wheat," is an English measure of eight standard bushels—so, if you see wheat quoted at 56 shillings, it is 7 shillings a bushel. A shilling is 22½ cents; multiply by 7, and you will have $1 57½ per bushel.

In Kentucky corn is measured by the barrel, which is five bushels of shelled corn. At New Orleans, a barrel of corn is a flour barrel full of ears. At Chicago, lime is sold by the barrel, and measured in the smallest size cask of that name that will pass muster. A barrel of flour is seven quarters of a gross hundred—112 lbs.—which is the reason of its being the old measure of 196 pounds. A barrel of tar is 20 gallons, while a barrel of gunpowder is only a small keg holding 25 lbs.,—and that reminds me of cotton, a bale of which is 400 lbs., no matter in what sized bundles it may be sent to market.

Price of Flour.

We are indebted to a friend for the following average of prices of flour in this city from the year 1824 to 1846 inclusive. It is an interesting, and we believe a reliable statement. The averages have been taken on the prices during the season of canal navigation.

Years.	*Av. price.*	*High. price.*	*Low. price.*	*Dif. in price.*
1824	$5 38	$5 50	$5 25	$ 25
1825	4 77	4 87	4 64	24
1826	4 61	5 13	3 88	1 25
1827	4 72	5 75	4 63	1 12
1828	5 78	7 50	4 50	3 00
1829	5 69	7 00	4 50	2 50
1830	5 19	5 25	4 88	37
1831	5 69	6 25	5 19	1 06
1832	6 02	6 25	5 75	50
1833	5 55	5 75	5 38	37
1834	5 01	5 31	4 81	50
1835	6 34	6 94	5 75	1 19
1836	8 19	10 00	7 00	3 00
1837	9 64	12 00	8 50	3 50
1838	8 09	9 00	7 00	2 00
1839	6 99	8 75	6 00	2 75
1840	4 94	5 63	4 75	88
1841	5 61	6 75	4 88	1 87
1842	5 36	6 50	4 13	2 37
1843	4 93	5 38	4 50	88
1844	4 53	4 88	4 13	75
1845	5 00	6 88	4 25	2 63
1846	4 90	6 00	3 75	2 25

Highest average price $9 04 was in 1837; lowest average price $4 53 was in 1844. Highest price $12 was in 1837; lowest price $3 75 was in 1846.—*Albany Argus.*

Supply of Cattle.

The following is a carefully prepared statement of the amount of live stock received monthly at the Philadelphia cattle market, during the year ending the 30th of December, 1847, inclusive—to which we have added the total supply in several previous years:

	Beeves.	Cows & Calves.	Sheep.	Swine.
January,	3620	950	1900	3600
February,	3650	900	1450	4150
March,	4000	1070	1425	4530
April,	4590	1570	2590	5190
May,	4240	1080	3280	3740
June,	5570	1120	4030	5350
July,	4070	1040	3970	4800
August,	4100	970	3600	5560
September,	4420	1060	3340	5370
October,	4560	890	3620	5190
November,	4280	1140	3570	4860
December,	4450	1200	3640	4590
Total in 1847,	51,550	12,990	36,420	57,130
same time 1846,	54,980	12,210	29,700	77,350
" " 1845,	49,290	9,680	52,710	77,030
" " 1844,	44,360	22,112	24,754	75,242
" " 1843,	37,420	15,121	22,490	80,480
" " 1842,	34,293	13,270	21,264	79,559
" " 1841,	29,657	10,863	26,630	68,895

Pa. Inquirer.

British Association.—Potatoe Disease.

June 28th—Mr. Westwood made some remarks before the British Association, on the existence of the potatoe disease in Oxfordshire. Some potatoes of his own had been attacked this year, and in three different districts around Oxford he had observed its presence. As an entomologist, he wished to deny most distinctly, that he thought the disease arose from the attacks of an insect. It had been stated by Mr. Smee that it arose from the attacks of a new aphis, which he called vastator, but this aphis, far from being new, had been described many years ago, and was a very common insect on decaying plants. Another gentleman proposed to call the insect A. pestilens. Mr. Westwood drew attention to the ignorance such observers displayed, as rendering it necessary that zoology should be taught as a branch of education. He was sorry to be speaking on this subject in an English University, where neither zoology nor comparative anatomy were recognised as necessary to complete the education of the professional man or gentleman. Mr. J. E. Gray stated, that he had compared some specimens of the aphis vastator with species of aphides in the British Museum, and found that under this name Mr. Smee had included three or four well known species. Dr. Lankester, drew attention to a bundle of potatoe stalks which he had brought from Pangbourne, which gave every sign of disease, but not an aphis could be found among them. One fact of this kind was sufficient to prove that the disease had no dependance upon the insect. He had heard from a gentleman in Manchester that potatoes sown in new soil on Chat Moss were free from the disease, whilst those sown in old soil all had the disease. This looked as if the inorganic constituents of the soil or potatoe were the source of the disease. Mr. Babington referred to the potatoe stems from Pangbourne. He had examined the roots of these plants, and found that wherever the disease appeared in the leaves there was evidence of disease in the roots. He believed the root or haulm was first at fault. He quite agreed with Mr. Westwood in the necessity of a more general knowledge of natural history. Sir W. Jardine said that chemical investigations of a very accurate nature, both of the soil and the potatoe, were being carried on in Edinburgh. He had found that potatoes grown on moss soil were more free from disease than others. This did not arise from the newness of the soil, for he had had some potatoes entirely spoiled which were planted in an orchard recently turned up. He had seen the stem and root very much affected without the leaves being diseased at all. He was happy to say that in Edinburgh all students of the University were expected to attend the natural history lectures. Mr. Hogan called attention to a method he had pursued of preventing the disease in the potatoe by growing them from seed. Mr. C. Darwin had brought the seed of the potatoe from Peru, and the tubers grown from it were quite as much affected as any other. Dr. Kelart stated that he had recently heard from Ceylon that the potatoes had been attacked in that island. A member said that he had just received letters from New Zealand, and the potatoe was also affected there. The Rev. N. Young, of New College, exhibited some potatoe leaves affected by the aphis.

On the Vitality of potatoe seeds, by John D. Murray, Esq., of Murraythwaite. In 1832 or 1833, a portion of ground in my garden, which produced a crop of potatoes, was trenched to the depth of 18 inches, and after bearing various crops for several years after, was turned into a flower garden, and covered with turf, which was kept regularly mown. After having been kept as a flower garden for eight or nine years, I this spring turned it into a kitchen garden, and for that purpose again had it trenched 18 inches deep, and sown with beet-root. About a month ago, when weeding and thinning the beet-root, I observed that a considerable number—perhaps 30 plants—of seedling potatoes had sprung up. They were spread irregularly over the whole piece of ground, a few being in the rows with the beet-root, but the greater part in the intervals between the drills. When I last saw them—about three weeks ago—they were looking very healthy, and exhibited considerable variety in the shape of the leaves. I have no doubt that they are the produce of seed from the crop of 1832 or 1833, which had been allowed to ripen on the ground, and the seed having been buried 18 inches deep, had remained dormant until brought again to the surface by the trenching this spring.

Potatoe Disease.—Mr. C. R. Bree said: In September, 1846, I ventured to suggest that we should endeavour to arrive at sound conclusions about the nature and cause of the potatoe disease, by registering and reasoning upon facts alone. I also stated that for two years I had observed symptoms of the disease for the first time on the 23rd of August. When I observed, therefore, your notice of the 20th ult., that we had nearly escaped the disease, I could not help thinking that the remark might still be premature, and the experience of the last ten

days—I write September 1st,—has unfortunately verified—at least partly—the truth of my anticipation. Previous to the heavy rain which fell throughout this district in the thunder storm of the 16th of August, I heard no complaint of disease; I had not a vestige of it in my own garden, nor could I hear of it in those of my neighbours, with one exception, and that of a limited character. Between the 16th and 20th of August rumors of disease in this neighbourhood sprung up, and by the 30th it became general. In some instances the loss is as great as in 1845. We thus find that in the three years this pestilence has destroyed our potatoe crop, it has invariably exhibited itself most severely and extensively between the 15th and 31st of August. This fact allowed, we make one step towards a rational description of the disease. Now, with regard to its nature; it appears in different parts of the plant at the same time, in the form of small black patches, resulting from the death of a portion of the tissue of the plant. These blotches in the leaves are generally dry, and crumble beneath the touch, and in some instances are covered with a parasitical fungus, the Botrytis Infestans. No person, I think, who has had the slightest experience, will fall into the great error of attributing the accession of the blotches to the injury caused to the leaf by an aphis, or any other insect. The two phenomena are widely different. The aphis causes the leaves which it infests to curl and form hollows, in which it generally is found to congregate in large numbers long before the vitality of the leaf is affected. This is not the case with the potatoe disease. I have looked carefully through my rows without finding an aphis of any description; but there is no mistaking the dark, isolated, gangrenous-looking spots, which are appearing on the leaves, along the stems, and among the tubers. How is this? I take up a root, and find five tubers perfectly sound and one diseased. I look at once at the stem and leaves, and find patches of the well known disease isolated, perfectly distinct from each other. Now I know of no law in vegetable physiology which enables an insect to cause phenomena like these. The notion is too absurd; it will not bear a moment's examination. In one of my deductions last year, I suggested the soil might have a greater or less influence in effecting a change in the vital process; but I find that the gardens on our rail-road, some of which are many feet below the usual surface, are all infected. One attribute of the soil I feel quite convinced has considerable influence over this disease, viz: its moisture. I have planted some potatoes in a line, part of which are among gooseberry bushes and very damp; the other portion is very dry. In the former the potatoes are nearly all diseased, in the latter they are nearly all sound. With regard, then, to the nature of this disease, I think we may fairly define it "gangrene of the plant, occurring in the first instance in isolated patches, either in the leaves and stem alone, or simultaneously in the tuber, which if left alone will ultimately destroy the plant and tubers entirely." Nearly 200 years ago, Sydenham described a species of cholera affecting the human subject in August. Popular error has generally attributed this disease to the plum season; but this is a great mistake. The disease described by Sydenham may have been studied by many observers in 1847, without a variation in the symptoms. It occurs in those who do not eat plums, and the disease caused by plums is not that described by Sydenham. It is, in fact, one of those periodic phenomena of which we know little more than its appearance and disappearance at certain seasons of the year, and which we judge by analogical reasoning is caused by some or other of those little understood, or rather little studied, laws which belong to the science of meteorology. That the potatoe disease belongs to the same class of diseases must, I think, be perfectly clear. It has all the characters, all the variations, and all the obscurity of a periodical epidemic. We may describe it as "Morbus niger—a gangrene of the tissues of the potatoe plant occurring epidemically in August; the diseased parts generally covered with a fungus, which appears subsequent to the disease. More extensive in cold and damp situations." More than this, so far as regards the etiology of the disease, I do not think we shall ever know.—*Gardener's Chronicle.*

Officers of Philadelphia Agricultural Society.

At the annual meeting of the Philadelphia Society for promoting Agriculture, held on the 5th inst., the following named gentlemen were elected to serve as officers for the ensuing year.

President—A. S. Roberts.

Vice Presidents—Dr. A. L. Elwyn and Robert T. Potts.

Rec. Secretary—Aaron Clement.

Assistant Rec. Secretary—P. R. Freas.

Corresponding Secretary—Owen Jones.

Treasurer—George Blight.

Curators—David Landreth and S. S. Richie.

Librarian—Aaron Clement.

Philadelphia, Jan. 6th, 1848.

Address of Algernon S. Roberts,

President of the Philadelphia Society for promoting Agriculture, at their annual meeting, January 5th, 1848.

GENTLEMEN,—Deeming our annual meetings,—when more members are usually assembled than at the ordinary monthly meetings,—a proper occasion for addressing to you a few thoughts and observations connected with the interests and objects of our Society, and respecting the agricultural capacity of this district, I must ask your indulgence for a few moments.

It is the good fortune of those who constitute this Society to live in a highly agricultural country, the soil of which has been tilled for almost two centuries, and a large portion having lost its virgin richness, must rely on good cultivation and liberal treatment for a bountiful yield to the husbandman.

We have within a circuit of some fifteen or eighteen miles around Philadelphia, including both shores of the Delaware, a greater variety of soil than can be found within the same limits in almost any other region: this variety of geological formation is consequently accompanied by as great a variety of productions, requiring various modes of cultivation and a high degree of agricultural skill to insure success.

On the eastern side of the Delaware, we have the cretaceous, or warm and silicious soil, which borders the Atlantic coast of all the States south of Connecticut, and whence we are supplied with fruit, vegetables, &c., of an almost tropical clime—crowding our markets with melons, peaches, sweet potatoes, and other luxuries peculiar to equatorial or low latitudes, and most of them too in greater perfection than similar productions of the south; for it is a singular, and I believe a well established principle, that the quality and flavour of fruit, vegetables, &c., improve as we proceed north, up at least to a certain limit, which probably will be found where the heat of the sun has no longer the power of ripening, or the length of the season, of maturing the respective kinds. Thus, for instance, the apples, peaches and pears of high latitudes, it is well known are superior to the same articles raised within the tropics, and so of the common potatoe and of all the cereal grains—their yield is greater and the quality better in temperate or northern latitudes, than in the sunny south.

The same rule is said to hold good with the productions that are confined exclusively to what *we* term the South—the cotton and sugar of our Southern States being better than those of the equatorial South, and the oranges of Florida superior to those of the West Indies.

Along the western shore of the Delaware and in a part of the peninsula formed by the junction of the Schuylkill with that river, we have an alluvial soil of finely comminuted silicious and argillaceous deposits, with sufficient vegetable matter to make a fertile soil, well adapted to the raising of vegetables. To this "river deposit," and to the diluvial formation with which in many places it alternates or is intermixed, we owe in a great measure the high reputation of the Philadelphia vegetable market. The alluvial or river deposit in the lower part of the "neck," and on the western shores of the Delaware and Schuylkill, below the city, becomes flatter; more difficult to drain in wet weather, and the soil more argillaceous and compact, which renders it unsuitable for the spade or plough, but well adapted to the raising of grass; hence the extensive and rich meadows which border those streams and afford pasturage to the numerous herds with which they are enlivened.

The next formation that I shall notice, is probably the most important in this section of country, and is known to the geologist as the "diluvial," or ancient deposit, consisting chiefly of gravel, sand and clay—the detritus of primary formations, either in alternate layers, or intermixed and comingled, frequently abounding with water-worn or rounded boulders and pebbles of sand-stone, flint, gneiss, &c.

To discuss the speculative theories that have been advanced regarding the formation of this interesting deposit, on which our beautiful city reposes, would require more time than is consistent with my present purpose, and I shall confine myself to a few descriptive remarks on its agricultural character and influence. The diluvial formation in the immediate vicinity of the city, consists chiefly of strata of gravel and sand, over which is a stratum of loamy clay, forming the subsoil of the surface coat or arable loam—the latter being originally from six to ten inches, but now depending a good deal for its thickness on tillage. There is much of this formation, which I doubt not would be greatly benefited by under draining and subsoil ploughing. This system of culture should, however, be cautiously applied where gravel or sand constitutes the subsoil.

The diluvium, or drift, as it is often termed, thins off as we recede westward, and the primitive formation begins to appear, consisting of gneiss, hornblende, mica, and clay slate. These primitive rocks would make

the surface extremely rugged, and in many places barren, were it not that the diluvium still to a considerable extent covers the surface, though greatly modified by the disintegration of the rocks.

The primitive formation of eastern Pennsylvania is with few exceptions stratified, being the metamorphic, or changed rocks of Lyell, and to this circumstance together with their diluvial covering, we owe the gradually undulating surface, that enables the farmer to work with facility.

The soil, as before observed, is influenced by the underlying rock, wherever the disintegrating hand of time has been at work. Where gneiss or laminated granite prevails the soil is light and open, but not so much so as where micacious stones form the subsoil or approach the surface; while the decomposition of hornblendic and argillaceous rocks forms a more retentive soil, and capable of producing heavier crops. The happy blending of these materials has, however, in most cases, formed a surface soil well suited to the cultivation of cereals, and of natural and artificial grasses.

The primitive formation makes its appearance boldly in the granitic gneiss of Fairmount, but as we recede from the banks of the Schuylkill, the rocks are not visible on the surface until we progress further west. This formation extends across the State in a north-east and south-west direction, and includes the crystaline marble and limestone, which form a still more fertile soil, adding largely to the resources, both agricultural and mineral, of eastern Pennsylvania. The limestone is overlaid and succeeded by the red and grey sandstone, and shales or middle secondary formation of Rogers.

This is a highly valuable section for the farmer, and with the addition of lime as a manure becomes exceedingly fertile. This secondary zone, like all the other geological strata of our State, runs in a north-eastern and south-western direction, crossing the Schuylkill a little below Norristown, and extends with few interruptions to the base of the south mountains below Reading. It may be known by the deep reddish brown colour imparted to the soil, and which is occasioned by oxide of iron.

In the primitive formation is a stratum of steatite or talcose rock, which crosses the Schuylkill about two miles above Manayunk, from which is obtained the soap-stone so extensively used as hearth and fire-stones, &c. Where this description of rock forms the subsoil or has but little covering, sterility prevails, and it frequently makes itself known by a barren strip of land. This stratum is well defined where it crosses the Lancaster turnpike twelve or fourteen miles from Philadelphia, and again near the intersection of the Columbia and West Chester rail roads. The sterile character of this rock is probably owing to its indestructable nature, and its destitution of fertilizing materials. It abounds in the vicinity of Baltimore, and bids stubborn defiance to the cultivator. There, however, a variety of it has been turned to profit in the manufacture of epsom salts.

In the year 1826, Dr. G. Troost, under the auspices of this Society, made a geological survey of the semi-circle of fifteen miles around Philadelphia, limiting his examinations to this side of the Delaware. As a pioneer, he opened the way and imparted considerable information for that early age of the science, but his report and map should be considered only as introducing the work of exploration, which I regret to say, has not since been followed up sufficiently to make us well acquainted with the earth we daily tread upon.

Dr. Troost divides the land within fifteen miles of the city, and on the western side of the Delaware, into four classes, namely, "1st, granitic soils, which probably owe their origin to the disintegration of gneiss, mica slate, and feldspar: these soils are in general, light and of a sandy nature.

"2nd. Amphibolic or hornblendic soils, originating from the decomposition of amphibolic rocks," (and he might have added, from all rocks of an argillaceous base.) "These soils are of a loamy nature, having generally a ferruginous colour, approaching even to a brownish red, and containing a large quantity of iron.

"3rd. Limestone soil, being partially produced by the disintegration of limestone; and

"4th. Alluvial soil," which includes diluvial, no distinction being made between these two classes in his report.

Peter A. Browne, Esq., has also written an essay on the diluvial formation of Philadelphia county, correcting some of the views of Dr. Troost, and noticing the remarkable fact, that in several—probably in all—parts where the *diluvial* strata of Philadelphia have been penetrated through, they are found to be underlaid by an alluvium, in which are deposited bark, shells, timber, and various organic substances, proving that this formation must have been anterior to the diluvial.

Professor Rogers, in his geological survey of the State of Pennsylvania, has described in general terms the formations of this part of the State, but almost unaccompanied with agricultural views or opinions; and in fact no writer on the subject with whose

works I have met, except Dr. Troost, appears to have given much consideration to the agricultural properties of the respective geological formations in this vicinity. It would be highly gratifying to learn that some of our scientific men had turned their attention to this important subject. It is one, however, that every farmer as well as philosopher, may study with advantage, and may acquire a fund of practical knowledge in the investigations that would result from geological inquiry.

With a soil so diversified, and most of it susceptible of being made exceedingly fertile and productive, with good roads and navigable waters, with a market unsurpassed and with the numerous facilities of commerce and manufactures around us, we may well boast of having the elements of agricultural wealth and prosperity within our reach.

It is then our duty and should be our ambition as the occupants of this favoured section to improve the advantages we enjoy;—to enlarge the sphere of our usefulness; to make ourselves, not merely members, but active and useful associates of this the most ancient agricultural institution in the Union. In this age of advancement the most numerous portion of the community, the cultivators of the soil, must not be listless or indifferent spectators.

We have, by our annual exhibitions, our monthly discussions, and our frequent social intercourse, contributed materially to the improvement, which I am happy to say, is visible in the agriculture of eastern Pennsylvania; but by vigorous and well directed action we may effect much more in future for the cause we espouse. As one means among the many to promote the objects of our Society, allow me to suggest the frequent visiting and inspection of farms, whether belonging to members of the Society or others. Visits of this kind might be made either officially or semi-officially, by self constituted committees of two or three, calling on such of their neighbours as are convenient, communicating to our meetings whatever they may think worthy of remark, and suggesting useful hints and improvements wherever occasion offers. The discussions and frequent interchange that would be elicited by a practice of this kind, could not fail to be highly beneficial, not only to this Society, but also to the agricultural community at large, whose favourable opinion we should cultivate and merit.

A. S. Roberts.

The peach may be rendered quite a dwarf, by budding on the Mirabella plum stock.

Management of the Horse.

The breathing of pure air is necessary to the existence and the health of man and beast. It is comparatively lately that this has been admitted even in the management of our best stables. They have been close, and hot, and foul, instead of airy, and cool, and wholesome. The effect of several horses being shut up in the same stable is completely to empoison the air; and yet, even in the present day, there are too many who carefully close every aperture by which a breath of fresh air can by possibility gain admission. In effecting this, even the key-hole and the threshold are not forgotten. What, of necessity, must be the consequence of this? Why! if one thought is bestowed on the new and dangerous character that the air is assuming, it will be too evident that sore throat, and swelled legs, and bad eyes, and inflamed lungs, and mange, and grease, and glanders, will scarcely ever be long out of that stable.

Let this be considered in another point of view. The horse stands twenty or two and twenty hours in this unnatural vapour-bath, and then he is suddenly stripped of all his clothing, he is led into the open air, and there he is kept a couple of hours or more in a temperature fifteen or twenty degrees below that of the stable. Putting the inhumanity of this out of the question, must not the animal thus unnaturally and absurdly treated be subjected to rheumatism, catarrh, and various other complaints? Does he not often stand, hour after hour, in the road or the street, while his owner is warming himself within, and this perhaps after every pore has been opened by a rushing gallop, and his susceptibility to the painful and the injurious influence of cold has been excited to the utmost?

It is not so generally known as it ought to be, that the return to a hot stable is quite as dangerous as the change from a heated atmosphere to a cold and biting air. Many a horse that has travelled without harm over a bleak country, has been suddenly seized with inflammation and fever when he has, immediately at the end of his journey, been surrounded with heated and foul air. It is the sudden change of temperature, whether from heat to cold, or from cold to heat, that does the mischief, and yearly destroys thousands of horses.

Mr. Clarke, of Edinburgh, was the first who advocated the use of well ventilated stables. After him Professor Coleman established them in the quarters of the cavalry troops, and there cannot be a doubt that he saved the government many thousand pounds

every year. His system of ventilation, however, like many other salutary innovations, was at first strongly resisted. Much evil was predicted; but after a time, diseases that used to dismount whole troops, almost entirely disappeared from the army.

A hot stable has, in the mind of the groom, been long connected with a glossy coat. The latter, it is thought, cannot be obtained without the former.

To this we should reply, that in winter a thin, glossy coat is not desirable. Nature gives to every animal a warmer clothing when the cold weather approaches. The horse—the agricultural horse especially—acquires a thicker and a lengthened coat, in order to defend him from the surrounding cold. Man puts on an additional and a warmer covering, and his comfort is increased and his health preserved by it. He who knows anything of the farmer's horse, or cares about his enjoyment, will not object to a coat a little longer and a little roughened when the wintry wind blows bleak. The coat, however, needs not to be so long as to be unsightly; and warm clothing, even in a cool stable, will, with plenty of honest grooming, keep the hair sufficiently smooth and glossy to satisfy the most fastidious. The overheated air of a close stable saves much of this grooming, and therefore the idle attendant unscrupulously sacrifices the health and safety of the horse.

If the stable is close, the air will not only be hot, but foul. The breathing of every animal contaminates it; and when, in the course of the night, with every aperture stopped, it passes again and again through the lungs, the blood cannot undergo its proper and healthy change; digestion will not be so perfectly performed, and all the functions of life are injured. Let the owner of a valuable horse think of his passing twenty or twenty-two out of the twenty-four hours in this debilitating atmosphere! Nature does wonders in enabling every animal to accommodate itself to the situation in which it is placed, and the horse that lives in the stable-oven suffers less from it than would scarcely be conceived possible; but he does not, and cannot, possess the power and the hardihood which he would acquire under other circumstances.

The air of the improperly close and heated stable is still farther contaminated by the urine and dung, which rapidly ferment there, and give out stimulating and unwholesome vapours. When a person first enters an ill-managed stable, and especially early in the morning, he is annoyed, not only by the heat of the confined air, but by a pungent smell, resembling hartshorn; and can he be surprised at the inflammation of the eyes, and the chronic cough, and the disease of the lungs, by which the animal, who has been all night shut up in this vitiated atmosphere, is often attacked; or if glanders and farcy should occasionally break out in such stables! It has been ascertained by chemical experiment, that the urine of the horse contains in it an exceedingly large quantity of hartshorn; and not only so, but that, influenced by the heat of a crowded stable, and possibly by other decompositions that are going forward at the same time, this ammoniacal vapour begins to be rapidly given out almost immediately after the urine is voided.

When disease begins to appear among the inhabitants of these ill-ventilated places, is it wonderful that it should rapidly spread among them, and that the plague-spot should be, as it were, placed on the door of such a stable? When distemper appears in spring or in autumn, it is in very many cases to be traced to such a pest-house. It is peculiarly fatal there. The horses belonging to a small establishment, and rationally treated, have it comparatively seldom, or have it lightly; but among the inmates of a crowded stable it is sure to display itself, and there it is most fatal. The experience of every veterinary surgeon, and of every large proprietor of horses, will corroborate this statement. Agriculturists should bring to their stables the common sense which directs them in the usual concerns of life, and should begin, when their pleasures and their property are so much at stake, to assume that authority and to enforce that obedience, to the lack of which is to be attributed the greater part of bad stable-management and horse disease. Of nothing are we more certain than that the majority of the maladies of the horse, and those of the worst and most fatal character, are directly or indirectly to be attributed to a deficient supply of air, cruel exaction of work, and insufficient or bad fare. Each of these evils is to be dreaded—each is, in a manner, watching for its prey; and when they are combined, more than half of the inmates of the stable are often swept away.

Every stable should possess within itself a certain degree of ventilation. The cost of this would be trifling, and its saving in the preservation of valuable animals may be immense. The apertures need not be large, and the whole may be so contrived that no direct current of air shall fall on the horse.

A gentleman's stable should never be without a thermometer. The temperature should seldom exceed seventy degrees in the summer, or sink below forty or fifty degrees in the winter.—*Youatt's Horse.*

For the Farmers' Cabinet.

Grape Culture in the United States.

It cannot but surprise all thinking persons that so little has been done in this country in the grape culture, compared with what might have been done. This state of things can only be accounted for from the fact that there are so many pursuits in our widely extended country, that the grape culture has been overlooked. It has also generally been supposed that there was some *great mystery* in cultivating grapes, and particularly in making wine.

Mr. Longworth, of Cincinnati, commenced the culture of the grape twenty-five years ago, with what is there called the "Cape grape." At Philadelphia it is called the "Alexander;" at Flushing, N. Y., "Schuylkill Muscatel;" at York, Pa., "Madeira;" at Vevay, Indiana, "Constantia." Mr. Longworth by pressing out the juice as soon as the grapes were mashed, produced a wine resembling Teneriffe. He also cultivated the Isabella extensively—but this grape rots badly in the vicinity of Cincinnati:—it does the same thing at Brinckleyville, North Carolina, and these are the only locations in the middle, western, and southern States that we know of, in which this happens.

A short time after starting the grape culture, Mr. Longworth obtained the Catawba from Major Adlum, of Georgetown, D. C., and this is now the favourite variety at Cincinnati.

Major Adlum appears to have had a proper appreciation of the value of the Catawba grape. In a letter to Mr. Longworth, he remarks, "In bringing this grape into public notice, I have rendered my country a greater service than I would have done had I paid the national debt." Mr. Longworth concurs in his opinion.

Mr. Longworth next imported many thousand grape vines from Madeira, France, and Germany. His last importation was five thousand vines, comprising twenty-two varieties from the mountains of Jura, where the vine region suddenly ends. Mr. L. says, "I gave them the best southern exposure on sides of hills, and expended two hundred dollars on one-eighth of an acre of ground, on a side hill with a southern exposure, in my garden. I took out the natural soil to the depth of three feet; laid a layer of gravel in the bottom, two inches thick, and over it a layer of thin paving stone, and filled it up with rich earth with a portion of sand added, and a drain to carry off the rain from the bottom. They grew slowly, were subject to mildew, and though covered in winter, would not succeed in our climate, and not a solitary plant of them is left in my garden or vineyard, except one plant of the *Meunier* (Miller's Burgundy.)"

Mr. L. has also made wine from the *Ohio*, *Lenoir*, and *Herbemont* varieties. The two first named do not produce a fine wine. The Lenoir and Herbemont are both liable to rot—both are fine table grapes, and the Herbemont makes a fine wine. The Missouri is tender at Cincinnati, while in the poor soil of New Jersey it grows luxuriantly, bears well, and is hardy.

For some years Mr. Longworth and other vinegrowers at Cincinnati, have made from the Catawba several varieties of wine, perfectly resembling the best Hock wines of Europe, and when one year old, commanding one dollar and fifty cents per gallon. Five years ago, Mr. L., partly by design and partly by accident, produced a fine article of Champagne. All wines, except the Champagne, are made without any sugar or alcohol. Mr. Miller and Mr. Selves sell their Champagne at twelve dollars per dozen—bottles returned—and thus far have found a ready sale.

In our next we shall give an account of the grape culture and wine making at Reading, Pa., and also what has been done in North Carolina and Georgia.

B. G. Boswell.

Philadelphia, Jan. 11th, 1848.

Rot in Sheep.

This disease is classed among those of the liver, because, except when the animal dies perfectly worn out by the malady, the most striking and the supposed characteristic mischief is found in this organ.

Happily for the American farmers, this destructive malady is, comparatively, of unfrequent occurrence in their flocks; but in Great Britain, on the authority of Mr. Youatt, more than a million of sheep and lambs die every year by this disease. "In the winter of 1830–31 this number was more than doubled; and had the pestilence committed the same ravages throughout the kingdom which it did in a few of the middle, eastern, and southern counties, the breed of sheep would have been, in a manner, extirpated." Many of the farmers lost their entire flocks, not an individual sheep escaping.

It appears, however, the disease is not peculiar to England. Many sheep are destroyed by it in Germany. In the north of France they are frequently swept away by it; and in the winter of 1809, the ravages were terrific throughout the kingdom. It has prevailed at some periods nearly over all Europe, as far north as Norway.

The compiler has no personal knowledge of this destructive malady, and is therefore compelled to rely on the account presented by Mr. Youatt, all of which that is of interest is subjoined.

"The early symptoms of this disease are exceedingly obscure; this is much to be deplored, because in the first stage of it alone does it often admit of cure. The animal is dull, lagging behind his companions—he does not feed so well as usual. If suspicion has been a little excited by this, the truth of the matter may easily be put to the test, for if the wool is parted, and especially about the brisket, the skin will have a pale yellow hue.

"The eye of the sheep beginning to sicken with the rot can never be mistaken; it is injected, but pale; the small veins at the corner of the eye are turgid, but they are filled with yellow serous fluid, and not with blood. Farmers very properly pay great attention to this in their examination or purchase of sheep. If the caruncle is red, they have a proof which never fails them that the animal is healthy. There is no loss of condition, but quite the contrary, for the sheep in the early stage of the rot has a great propensity to fatten. Mr. Bakewell was aware of this, for he used to overflow certain of his pastures, and when the water was run off turn those of his sheep there which he wanted to prepare for the market. They speedily became rotted, and in the early stage of the rot they accumulated flesh and fat with wonderful rapidity. By this manœuvre he used to gain five or six weeks on his neighbours.

"As the disease becomes confirmed the yellow tinge begins to spread—the muzzle and the tongue are stained—the animal is more dull and dispirited—his false condition rapidly disappears—the membrane of the nose becomes livid—the tongue gradually assumes the same character—the eyes are dull, and their vessels charged with a yellow-brown fluid. The breath now becomes fetid—the bowels variable—sometimes costive, and at other times loose to a degree that defies the power of medicine. The skin often becomes spotted with yellow or black—the emaciation is more and more rapid—the general fever increases—the vessels of the eye are more distended and red—the skin becomes loose and flabby, and if it is pressed upon, a peculiar crackling sound is heard—the wool comes off when pulled with the slightest force—the appetite entirely fails—the belly begins to enlarge—on pressure fluid is easily recognized within it, and hence one of its names 'the hydropic' or dropsical rot. The animal is weak in every limb—a violent purging is now very frequently present—the sheep wastes away to a mere skeleton, and at length he dies—the duration of the disease being from two to four or six months.

"When a rotted sheep is examined after death, the whole cellular tissue is found to be infiltrated, and a yellow serous fluid everywhere follows the knife. The muscles are soft and flabby; they have the appearance of being macerated. The kidneys are pale, flaccid, and infiltrated. The belly is frequently filled with water, or purulent matter; the peritoneum is everywhere thickened, and the bowels adhere together by means of an unnatural growth. The heart is enlarged and softened, and the lungs are filled with tubercles. The principal alterations of structure are in the liver. It is pale, livid, and broken down with the slightest pressure; and on being boiled it will almost dissolve away. When the liver is not pale, it is often curiously spotted. In some cases it is speckled like the back of a toad. Nevertheless, some parts of it are hard and scirrhous; others are ulcerated, and the biliary ducts are filled with *flukes*. Here is the decided seat of the disease, and it is here that the nature of the malady may be learned. *It is inflammation of the liver.* In consequence of this the secretion from the liver is increased—at first scarcely vitiated, and the digestive powers are rendered more energetic; but soon the bile flows so abundantly that it is taken into the system, and the eye, the brisket, the mouth, become yellow. As the disease proceeds, the liver becomes disorganized, and its secretion more vitiated, and even poisonous; and then follows a total derangement of the digestive powers.

The liver attracts the principal attention of the examiner; it displays the evident effects of acute and destructive inflammation; and still more plainly the ravages of the parasites with which its ducts are crowded. Here is plainly the original seat of the disease; the centre whence a destructive influence spreads on every side. Whatever else is found, it is the consequence of previous mischief existing here. Then the first inquiry is a very limited one—the nature of this hepatic affection, and the agency of the parasites that inhabit the liver. *Are they the cause or consequence of disease?*

The Fluke—the *Fasciola* of Linnæus—the *Distoma hepaticum* of Rodolphi—is found in the biliary ducts of the sheep, the goat, the deer, the ox, the horse, the ass, the hog, the dog, the rabbit, and various other animals, and even in the human being. It is from three-quarters of an inch to an inch and a quarter in length, and from one-third

to half an inch in greatest breadth. The head is of a pointed form, round above, and flat beneath; and the mouth opens laterally instead of vertically. There are no barbs or tenacula, as described by some authors. The eyes are placed on the most prominent part of the head. No difference of sex has yet been discovered in the fluke-worm, and it is believed to be an hermaphrodite.

Then, is the fluke-worm the cause or the effect of the rot? To a certain degree both. They aggravate the disease; they perpetuate a state of irritability and disorganization, which must necessarily undermine the strength of any animal; they unnaturally distend, and consequently weaken the passages in which they are found; they force themselves into the smaller passages, and, always simming against the stream, they obstruct the flow of the bile, and produce inflammation by its accumulation; they consume the nutritive juices, by which the neighbouring parts should be fed; and they impede the flow of the bile into the intestines, by clogging up the ducts with their excrement and their spawn. Notwithstanding all this, however, if the fluke follows the analogy of other entozoa and parasites, it is the effect and not the cause of the rot. The ova are continually swallowed by the sound animals and the diseased; but it is only when the fluids are altered, and sometimes essentially changed, and the condition of the digestive organs is materially impaired, that their appearance is favoured, or their multiplication encouraged.

What, then, is the cause of the rot in sheep?

The knowledge of the cause can alone guide us to a cure, or at best, to the prevention of it. It does not arise from deficiency of food; a sheep may be reduced to the lowest state of condition—he may be starved outright, but the liver would not be necessarily as often in a diseased state. It is not to be traced to the effects of sudden flush of grass. The determination of blood to the head, diarrhœa, dysentery, might be thus produced, but not one symptom resembling rot. Some persons, led away by a favourite theory, have traced it to defective ventilation; but in the closest keeping to which the British sheep is usually committed, there is no foul air to be got rid of, and defective ventilation would be words without meaning.

The rot in sheep is evidently connected with the soil or the state of the pasture. It is confined to wet seasons, or to the feeding on ground moist and marshy at all seasons. It has reference to the evaporation of water, and to the presence and decomposition of moist vegetable matter. It is rarely or almost never seen on dry or sandy soils and in dry seasons. In the same farm there are certain fields on which no sheep can be turned with impunity. There are others that seldom or never give the rot.

Some seasons are far more favourable to the development of the rot than others, and there is no manner of doubt as to the character of the seasons. After a rainy summer, or a moist autumn, or during a wet winter, the rot destroys like a pestilence. A return and a continuance of dry weather materially arrests its murderous progress. It is, therefore, sufficiently plain that the rot depends upon, or is caused by the existence of moisture. A rainy season, and a tenacious soil, are fruitful or inevitable sources of it.

But there is something more than moisture necessary for the production of rot. The ground must be wet, and its surface exposed to the air; and then the plants, previously weakened or destroyed by the moisture, will be decomposed; and in that decomposition, certain gases or miasmata will be developed, that cannot long be breathed, or scarcely breathed at all by the sheep, without producing the rot.

Chemistry, even in its present advanced state, will afford no means of analyzing these deleterious gases; and it is a matter of little practical consequence to be acquainted with their constituent principles. Then the mode of prevention consists in altering the character of as much of the dangerous ground as he can, and keeping his sheep from those pastures which defy all his attempts to improve them.

Treatment.—In the early stage of the disease, bleed. Abstract, according to the circumstances of the case, eight, ten, or twelve ounces of blood. There is no disease of an inflammatory character, at its commencement, which is not benefited by an early bleeding. To this let a dose of physic succeed—two or three ounces of Epsom salts; and to these means let a change of diet be immediately added—good hay in the field, and hay, straw, or chaff in the straw-yard.

To this should be added—a simple and a cheap medicine, but that which is the *sheet anchor* of the practitioner here—*common salt*. The farmer is beginning to be aware of the valuable properties of salt in promoting the condition, and relieving and preventing many of the diseases of all the domesticated animals. In the first place, it is a purgative, inferior to few, when given in a full dose; and it is a tonic as well as purgative. Its first power is exerted on the digestive organs—on the stomach and intes-

tines—augmenting the secretions and quickening the energies of each. It is the stimulus which nature herself points out, for, in moderate quantities and mingled with the food, men and beasts are fond of it. The sheep, having a little recovered from the disease, should still continue on the best and dryest pasture on the farm, and should always have salt within their reach. It should be rock salt.—*Morrell's American Shepherd.*

Young Apple Orchards.

It is an indispensable requisite, in all young orchards, to keep the ground mellow and loose by cultivation; at least for the first few years, until the trees are well established. Indeed, of two adjoining orchards, one planted and kept in grass, and the other ploughed for the first five years, there will be an incredible difference in favour of the latter. Not only will these trees show rich dark luxuriant foliage, and clean smooth stems, while those neglected will have a starved and sickly look, but the size of the trees in the cultivated orchard will be treble that of the others at the end of this time, and a tree in one will be ready to bear an abundant crop, before the other has commenced yielding a peck of good fruit. Fallow crops are the best for orchards,—potatoes, vines, buckwheat, roots, Indian corn, and the like. An occasional crop of grass or grain may be taken; but clover is rather too coarse-rooted and exhausting for a young orchard. When this, or grass, is necessarily grown among young trees for a year or two, a circle of three feet diameter should be kept loose by digging every season about the stem of each tree.

When the least symptom of failure or decay in a bearing orchard is perceived, the ground should have a good top-dressing of manure, and of marl, or mild lime, in alternate years. It is folly to suppose that so strong growing a tree as the apple, when planted thickly in an orchard, will not, after a few heavy crops of fruit, exhaust the soil of much of its proper food. If we desire our trees to continue in a healthy bearing state, we should, therefore, manure them as regularly as any other crop, and they will amply repay the expense. There is scarcely a farm where the *waste* of barn-yard manure,—the urine, etc., if properly economized by mixing this animal excrement with the muck-heap—would not be amply sufficient to keep the orchards in the highest condition. And how many moss-covered, barren orchards, formerly very productive, do we not every day see, which only require a plentiful new supply of food in a substantial top-dressing, thorough scraping of the stems, and washing with diluted soft soap, to bring them again into the finest state of vigor and productiveness?—*Downing's Fruit Trees.*

Milk in Boston.—A statement of the quantity of milk brought to Boston over the Fitchburg rail-road, will perhaps interest some. A gentleman, who has the means of knowing, states the quantity to be, on a careful average, at least 900 cans per day. Each can holds four gallons, and weighs about 25 pounds. By quantity, this would give one million twenty-three thousand and two hundred gallons per year, and by weight, three thousand five hundred and ten tons. Heretofore, upon this road, the milk cans have been attached to the passenger trains, but after the 1st of April next, in consequence of the great increase of the business, a special milk train is to be run in the night. The milk is sold chiefly in Boston and Charlestown, at five cents per quart. We believe the only rail-roads that convey milk to any extent are the Fitchburg and Worcester.—*Pa. Inquirer.*

Death of Horses.—Within a few weeks past, Mr. Thomas Craige, whose stable is located in an alley running south of Race street near Broad, has lost six valuable horses, in a very singular manner. Adjoining the stable of Mr. C. is another, occupied by Mr. Ramage, which latter it appears, has been long infested with rats. In order to destroy these troublesome customers, poison has been used in various parts of the building; it was only when the seventh horse of Mr. C. sickened and died, that the cause of their death divulged itself—the infusion of the poison, by the rats, into the feed of the poor animals.—*Pa. Inquirer.*

THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

Philadelphia, First Month, 1848.

A young man without a family would like a situation as Gardener. He is well acquainted with the business, and can give unexceptionable references. Letters post paid, addressed to

Rev. JOHN C. LYONS,

Phœnix St. below Front, Kensington. Philadelphia Co., Pa., will be attended to.

January 10th, 1848.

KEPHART'S PATENT

Fruit and Vegetable Preserver.

An admirable invention, by which fruits, vegetables, &c., viz. oranges, lemons, apples, pears, peaches, &c.—potatoes, green corn, melons, &c., can be kept as long as desirable with all their natural juices and sweetness. Also, butter, eggs and bacon can be kept throughout the year, fresh and sweet, at an expense not greater than in an ordinary warehouse in the city. A full description will be found in the June number of the Cabinet.

The undersigned having purchased the Patent-right for the United States, except the states of New Jersey, Delaware and Maryland, and the cities of New York and St. Louis, offer for sale Patent-rights for the construction of the PRESERVER, by states, counties or individual rights, upon terms that will induce all interested in the preservation of the above named articles, to purchase rights and construct houses.

FLACK, THOMPSON & BROTHER,
Coates Street wharf, near Fairmount.

All communications will receive prompt attention, if addressed either to PETER KEPHART,
Western Hotel, Baltimore, Md.
Or to FLACK, THOMPSON & BROTHER,
Spring Garden P. O. Philadelphia.

July 15th, 1847.—6t.

SEED STORE,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red Clover, and other grass seeds; fresh Perennial Rye-grass, and Lucerne seed. Field seeds, consisting of choice Spring Wheat, Barley, Potatoe Oats, Northern and other seed-corn. Also, in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.

M. S. POWELL.

Philad., Feb., 1847. tf.

Agency for the Purchase & Sale of

IMPROVED BREEDS OF CATTLE & SHEEP.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, swine, poultry, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay.

AARON CLEMENT.

April 15th, 1847.

COAL.

THE subscriber has made an arrangement for a constant supply of superior Lehigh and Schuylkill Coal—carefully prepared for family use, which he will furnish *at the usual cash prices*, on application at the office of the Farmers' Cabinet, where samples of the different kinds and sizes may be seen.

JOSIAH TATUM.

Philadelphia, Seventh month 15th, 1847.

NEW

Horticultural and Agricultural Ware-house,

84 Chesnut Street below Third, South side.

The subscriber has for the better accommodation of his customers, opened the above ware-house, with a large stock of Garden and Field Seeds, crop of 1846. Implements and Books on Gardening and Farming; he calls the particular attention of farmers to his pure stock of Sweede Turnips, Field Carrots, Beets and Parsnips, Pruning Shears, Saws and Knives.

March 14th, 1847.—1y. R. BUIST.

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Successor to George M. Coates.

May 15th, 1847.

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PROUTY'S Improved Machine for Shelling and Screening Corn, and Separating it from the Cob.

For this Machine the Philad'a Agricultural Society awarded their first Premium for Corn Sheller, 1847.

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Nov. 15, 1847.—tf.

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THE quantity of rain which fell in the 12th month 1847, was ..... 5 78 ½ i.

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A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the Farmers' Cabinet, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, $1 75 per barrel, containing four bushels each, or 35 cents a bushel. Orders from a distance, enclosing the cash, with cost of porterage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. The results on corn and wheat have been generally very satisfactory. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it. We are now ready to supply any demand for wheat.

JOSIAH TATUM.

Philada. 8th mo. 16th, 1847.

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